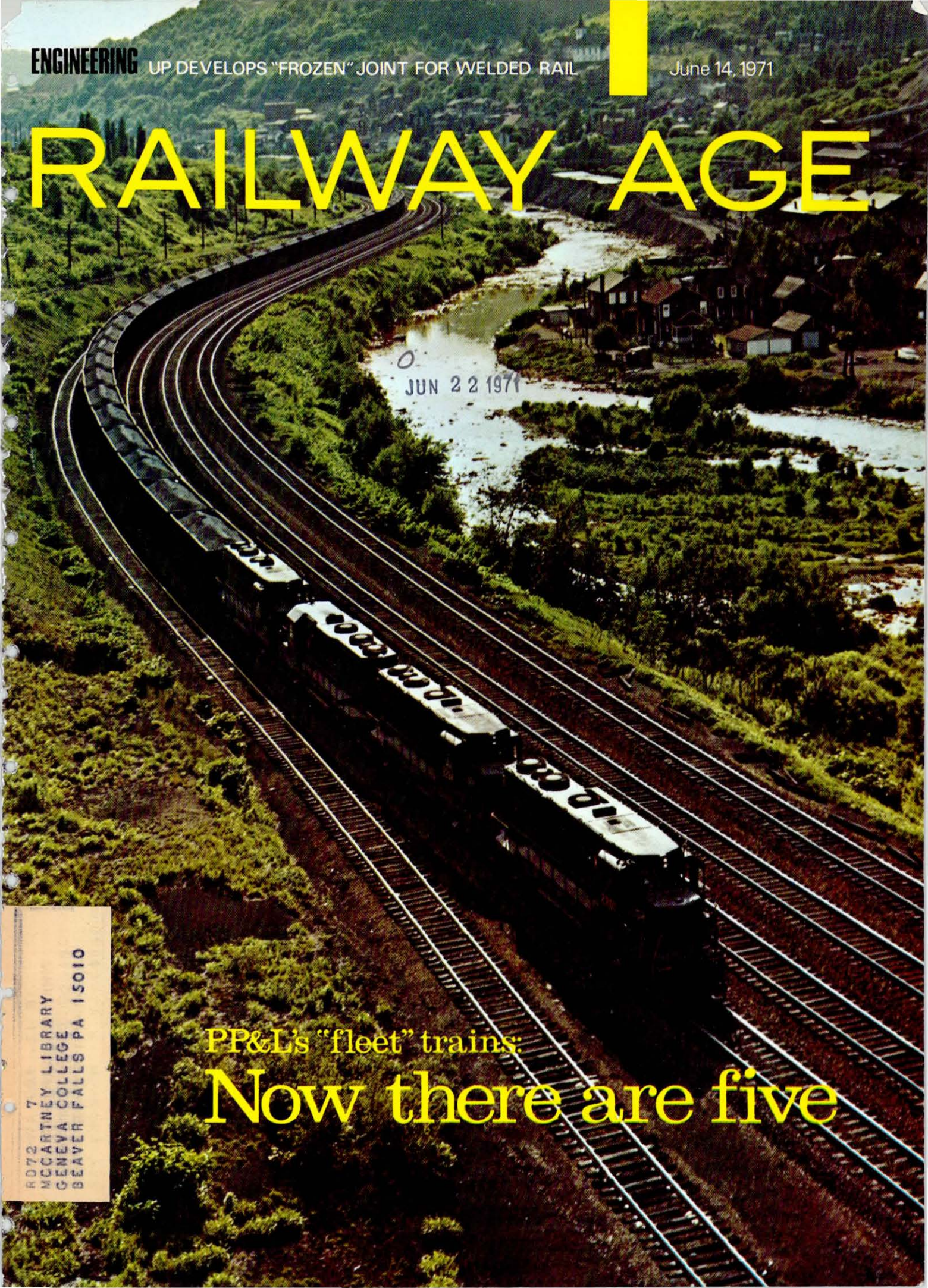
**ENGINEERING** UP DEVELOPS "FROZEN" JOINT FOR WELDED RAIL

June 14, 1971

# RAILWAY AGE

JUN 22 1971



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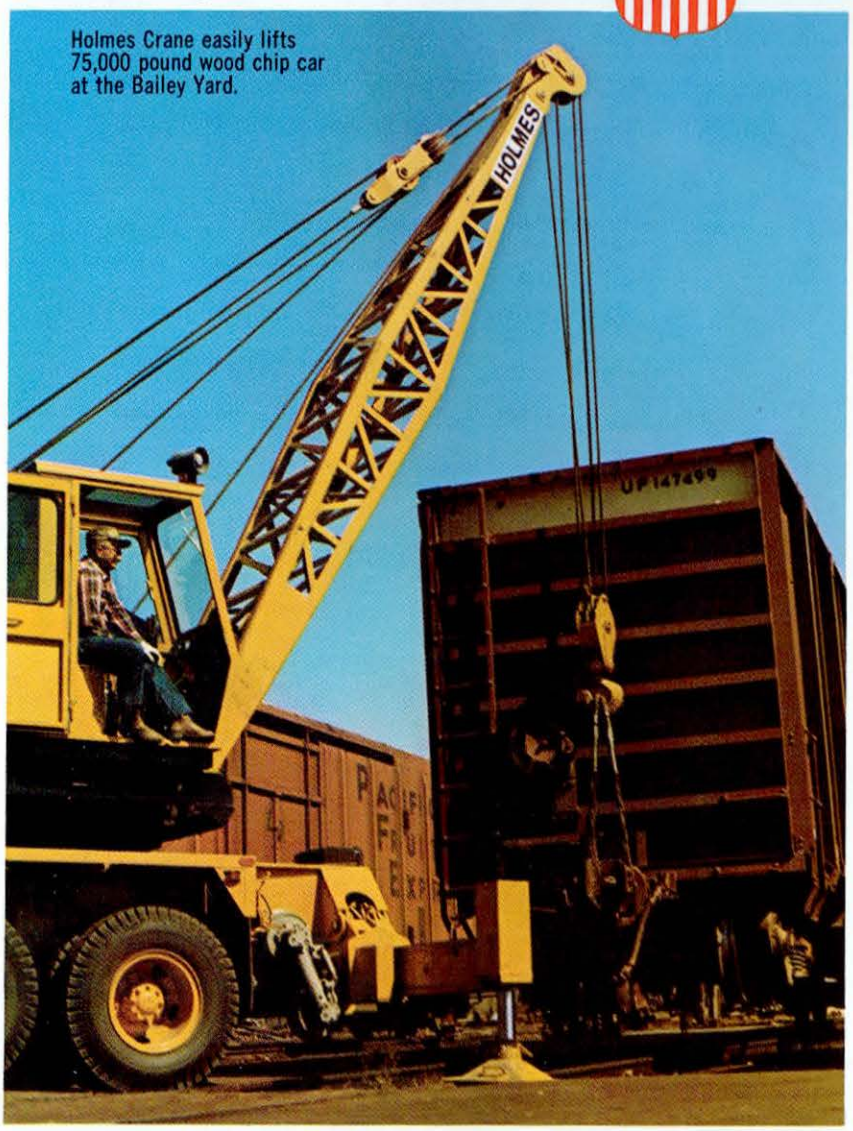


Holmes Crane easily lifts 75,000 pound wood chip car at the Bailey Yard.

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**Over Tracks** Mobile and strong, but light enough to cross over tracks without damaging spur or branch lines.

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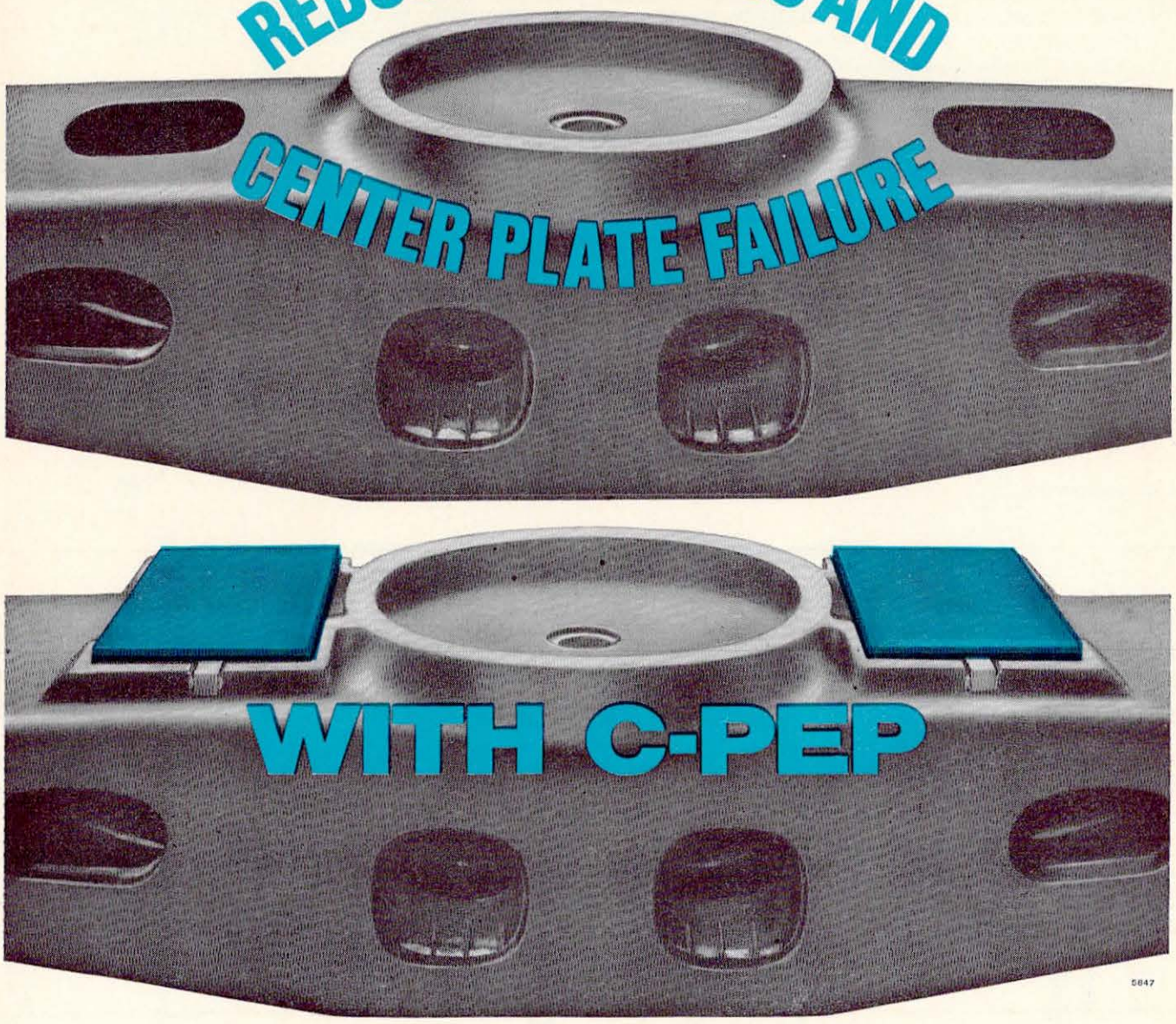


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Circle 3 on coupon page 41

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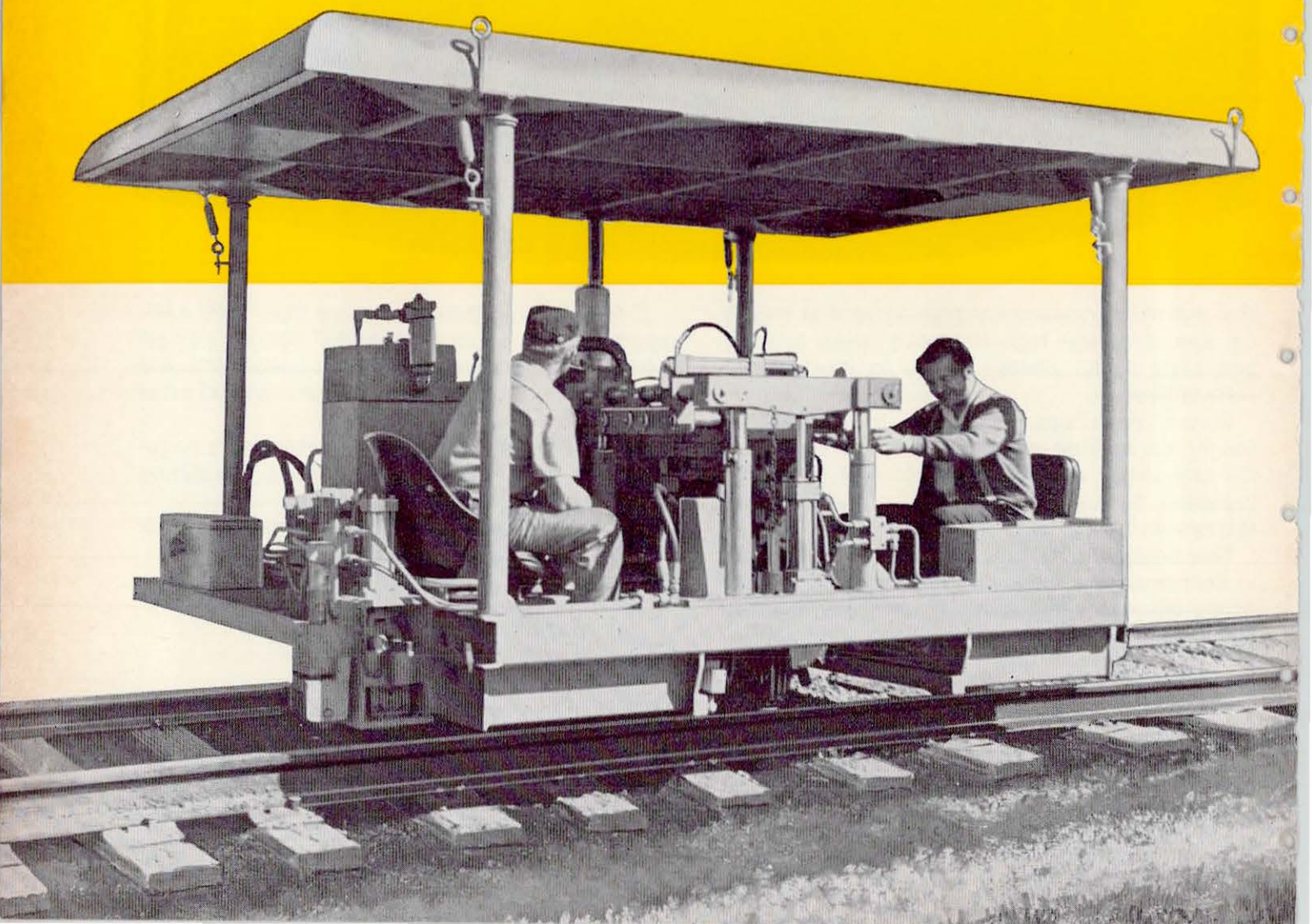

# RAILWAY AGE

June 14, 1971 • Vol. 170 No. 11



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# Inside

LUTHER MILLER

## PP&L SUCCESS STORY

Shipper-owned unit coal trains are no longer novelties. Detroit Edison, Cleveland Electric Illuminating, Commonwealth Edison, Illinois Power, Wisconsin Electric Power and Wisconsin Power & Light are among those utilities that have invested their own money in their own fleets of coal cars and are reaping huge benefits therefrom.

But the idea was a brand-new one in June 1964 when Pennsylvania Power & Light proudly invited the business and trade press to the Pennsylvania hinterland to witness the inaugural run of PP&L's first "fleet train."

The inaugural was not, alas, an auspicious one. Loading was delayed by an explosion in the automatic conveyor system at the mine. The next day, arrival ceremonies had to be hastily cancelled when four cars derailed.

That appears to have been just about the end of PP&L's troubles with its fleet trains. Today this utility owns not one unit train, but five; and No. 6 is just around the bend.

To find out what happened in the intervening seven years, Mechanical Editor Fred Houser went to Allentown, Pa., to talk with PP&L brass. He came back not only with one of the great traffic tales of recent years—but with a mechanical-engineering story of no mean proportions. The PP&L trains, it seems, have more than lived up to the original prediction of Bethlehem Steel (the carbuilder in this successful three-way partnership) that they would constitute "a unique materials testing laboratory on wheels" (RA, June 29, 1964, p. 38). Fred Houser's report on this and other aspects of PP&L's pioneering operation starts on p. 26.

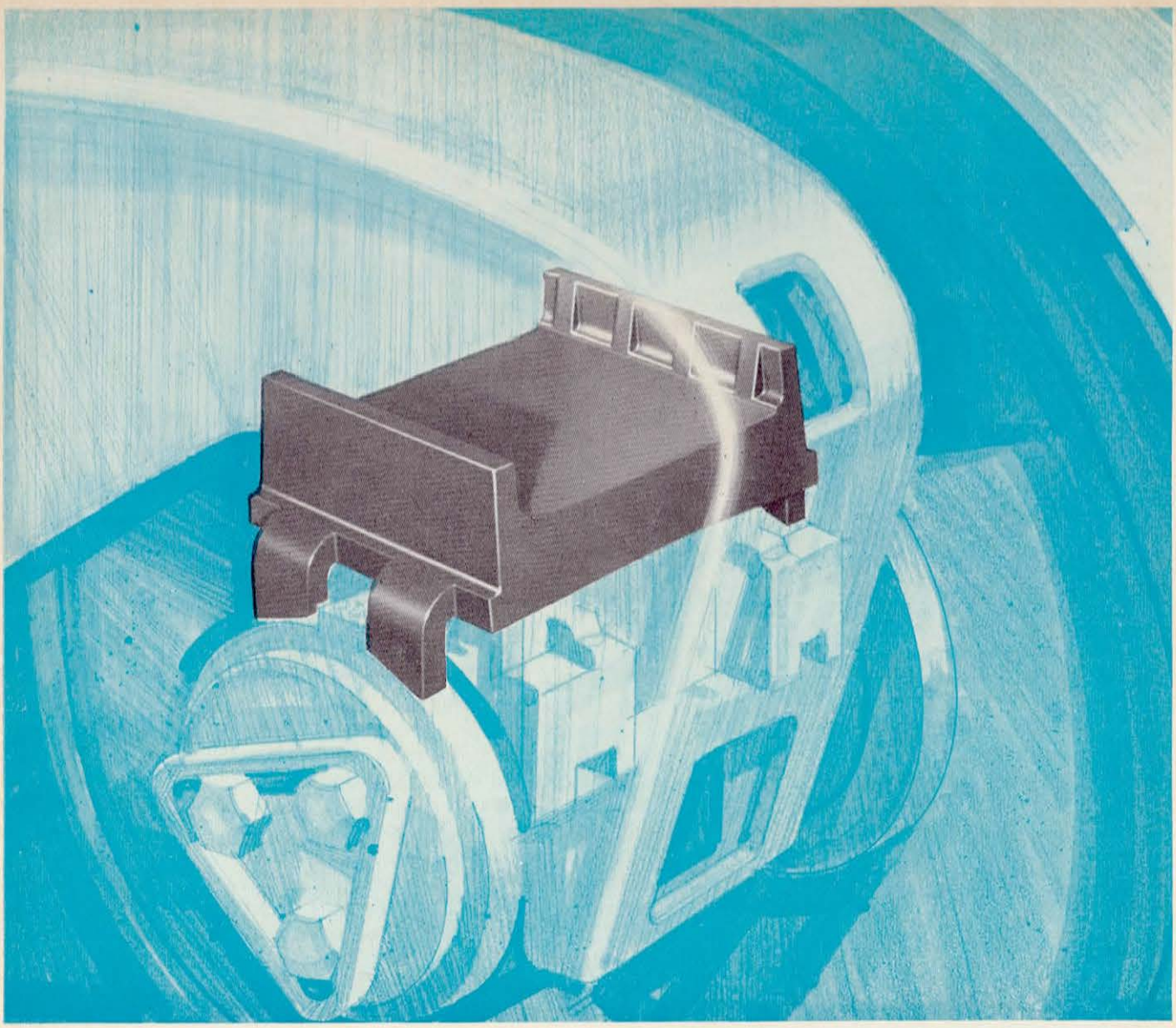
## WHATEVER HAPPENED TO #8444? HERE'S WHAT HAPPENED

On Jan. 1, 1971, Class I railroads owned or leased 26,754 diesel electric locomotives, 270 straight electrics—and one steamer. This information was routinely published in our May 10 issue (p. 56). But some steamfans found it far from routine. One of them, J. G. Fuller, accused us of "cruel and unusual punishment—you don't tell us who owns it!"

For Mr. Fuller, and others who have written in, we hasten to make amends. The one remaining steam locomotive on the AAR's active roster is Union Pacific's #8444. Ed Schafer, UP's general director of public relations, reports:

"Our steam engine #8444 is presently in the Omaha shops undergoing routine maintenance. Some time next month it will go back to its berth in Cheyenne where we will use it for special trips. It usually runs from Cheyenne to Denver to Laramie and back.

"We have no plans for expanding its area of action as yet but we may extend it a little bit this summer; however, as of right now, there is no definite date set up for a trip."



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Circle 5 on coupon page 41

# RAILWAY AGE

June 14, 1971

## NEWS


| | | |
|---|---|---|
| EQUIPMENT | Bethlehem will build 2,520 cars for PC | p. 8 |
| | Pullman-Standard reports an upturn in car orders | p. 8 |
| | Canada builds a new lightweight coal car | p. 8 |
| | New passenger coach gets structural tests | p. 14 |
| TRANSIT | Baltimore will start digging in 1972 | p. 8 |
| | Toronto loses an expressway | p. 8 |
| FIXED PLANT | Would it help if the government took it over? | p. 64 |
| LABOR | New court rulings cloud the scene | p. 11 |
| AWARDS | Santa Fe wins top safety award | p. 13 |
| | ARAM names six Golden Spike winners | p. 15 |
| PENN CENTRAL | PC takes bold moves to trim labor costs, raise capital | p. 11 |
| PASSENGERS | Amtrak restores "North Coast" route | p. 14 |
| | IC tests new ticket vending machines | p. 13 |


## FEATURES


| | | |
|---|---|---|
| COMMUNICATION | Do company publications avoid the "gut" issues? | p. 23 |
| TRAFFIC | PP&L brings in Fleet Train 5 | p. 26 |
| ELECTRIFICATION | CP tests it as an adjunct to diesel power | p. 30 |
| MOVING PEOPLE | What's happening—and where | p. 34 |
| | Auto-Train sets its inaugural for Oct. 1 | p. 36 |
| | Jetports spawn new rail lines | p. 40 |
| ENGINEERING | UP develops "frozen" joint for welded rail | p. 48 |
| | Rails classified and tested automatically | p. 50 |


## COMMENT


| | | |
|---|---|---|
| INSIDE | Pennsylvania Power & Light's success story | p. 5 |
| LINES ON LABOR | Why should management subsidize railroad strikes? | p. 25 |
| VIEWPOINT | Labor-management communication—more vital than ever | p. 60 |
| WATCHING WASHINGTON | Hopes high for tax credit reinstatement | p. 13 |


## COVER

The color photograph of Pennsylvania Power & Light's first "fleet train" was taken by A. M. Baunach, a staff photographer for Bethlehem Steel, builder of the PP&L cars.

## DEPARTMENTS


| | | | |
|---|---|---|---|
| Bookshelf | p. 52 | People in the News | p. 51 |
| Carloadings | p. 57 | Piggyback Loadings | p. 57 |
| Market Outlook | p. 57 | Supply Trade | p. 54 |
| New Products | p. 41 | Transit Personnel | p. 54 |

# Short and Significant

## EQUIPMENT

### BETHLEHEM TO BUILD 2,520 CARS FOR PC

Penn Central has now completed its fourth major car-leasing agreement. A "major leasing company" will purchase 2,520 new open-top hoppers from Bethlehem Steel and lease them to Penn Central for 15 years, with options to renew for two additional five-year terms. In earlier leasing agreements, PC arranged to acquire 1,000 box cars from ACF, 1,251 covered hoppers from Pullman-Standard, and 2,000 gondolas from Fruehauf Railcar (RA, May 31, p. 11). In addition to the leased cars, which now total 6,771, PC has acquired so far this year 79 new hi-cube box cars, 25 covered hoppers and 50 cabooses, for a grand total of 6,925 new units. The road's rebuilding program this year includes 1,500 box cars and 600 open top hoppers.

### PULLMAN REPORTS UPTURN IN CAR ORDERS

Pullman-Standard now has sufficient orders for freight cars to keep its Bessemer and Butler plants "active through most of 1971," Pullman Inc. president Samuel B. Casey, Jr., told New York security analysts May 28. "The order intake in the month of May was brisk, indeed," said Casey, adding: "We could handle a good deal more, of course." Last year, Pullman's carbuilding division built nearly 17,000 cars; Casey expects to "come close" to that figure this year. Pullman's biggest recent order: 1,400 new 50½-ft general purpose box cars for the Southern (see page 57). Casey said Pullman's transit/commuter-car order book is "less impressive" but "we anticipate an upturn here shortly and many years of brisk business." Casey predicted "another record year" for Transport Leasing (which leases 7,500 cars to 130 shippers and 1,500 cars to eight railroads) and improved production for the Trailmobile division.

### FRA BUYS GE LOCOMOTIVE FOR PUEBLO

FRA's new High Speed Ground Test Center at Pueblo, Colo., dedicated May 19 during National Transportation Week by DOT Secretary John A. Volpe, will soon receive a 6-axle, 3,000-hp GE diesel electric locomotive costing $338,838. The unit, expected to be delivered June 15, will act as a temporary power plant electrifying a third rail until regular power lines are installed. Then it will become a locomotive for test equipment.

### CANADA BUILDS NEW LIGHTWEIGHT COAL CAR

A prototype of a new lightweight coal car is being built under the joint auspices of Alcan Canada Products Division of the Aluminum Co. of Canada; Procor Ltd., a subsidiary of Trans Union Corp. and Canada's Department of Industry, Trade and Commerce. Reportedly, the car will be 23% lighter than conventional units.

## TRANSIT

### BALTIMORE WILL START DIGGING IN '73

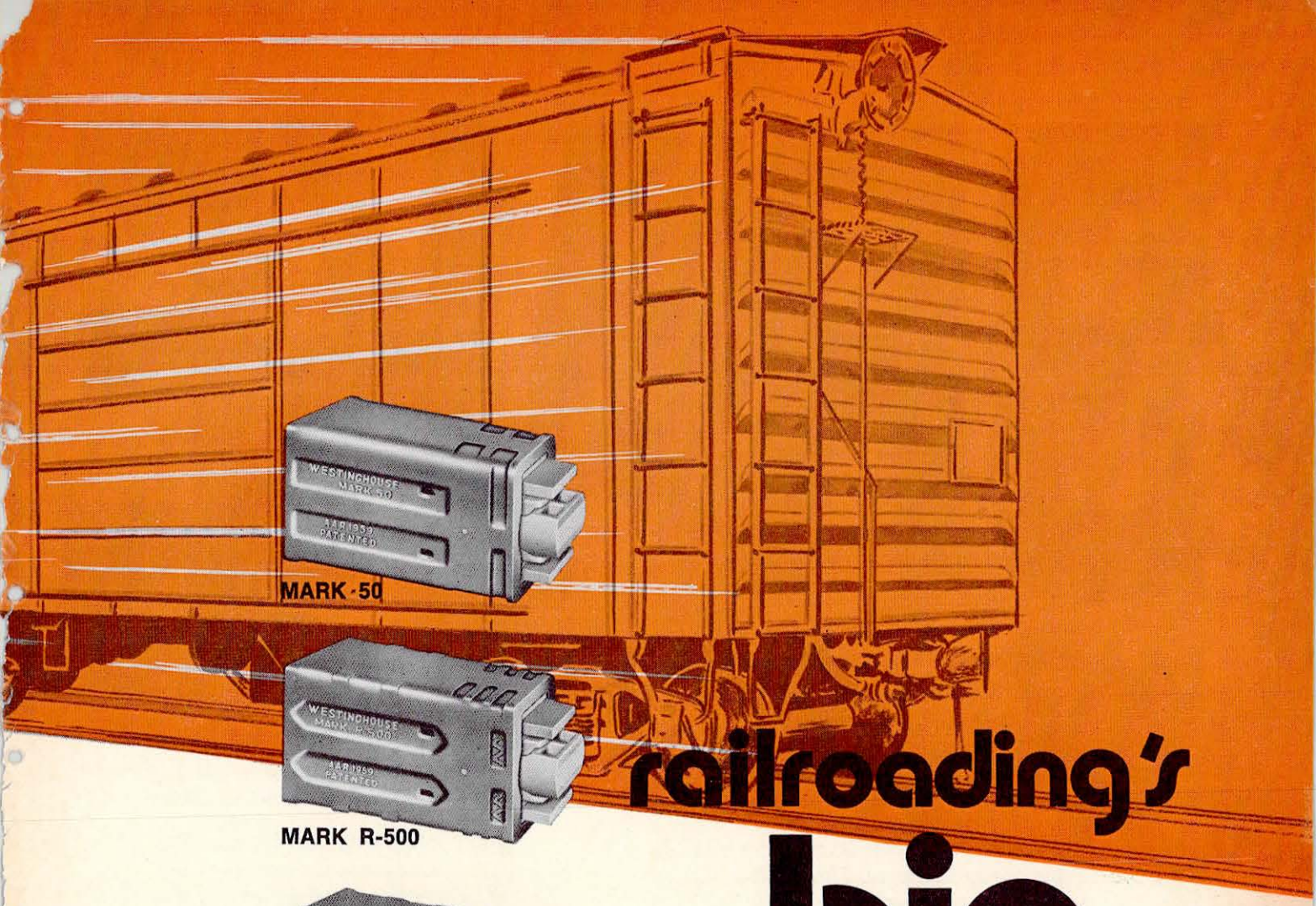
UMTA on June 8 awarded a $1.4-million technical grant to Baltimore's Metropolitan Transit Authority for continued planning of the city's rapid transit system. Maryland's General Assembly already has appropriated $700,000 for the one-third local cost of planning. Construction of two legs of the 71-mile six-leg system is scheduled to begin in summer 1973. Completion of the first segments will be in 1978. One segment will include a rapid transit line on the median strip of an expressway.

### ROHR LOOKS AT ANOTHER BUS-BUILDER

Rohr Corp., already engaged in the bus-building business through its subsidiary, Flxible Co., has been discussing purchase of Greyhound Corp.'s bus-manufacturing unit, Motor Coach Industries. The Greyhound subsidiary has facilities in Pembina, N. D., and Winnipeg, Can. Its sales in 1968, the last time they were listed separately, were "around $30 million," according to a Rohr spokesman. Once strongly aerospace oriented, Rohr has made several expansionary moves within the ground transportation field in recent years, with a notable entry made in the transit-car manufacturing business through capture of the contract for 250 BART cars.

### TORONTO LOSES AN EXPRESSWAY

Ontario Prime Minister William Davis announced June 4 that the provincial government will halt construction of a controversial $237-million expressway in Toronto. The decision ended a decade-long battle over the highway, which would tear through 6.5 miles of housing. "If we are building a transportation system to serve the automobile, the expressway would be a good place to start," said Davis. "But if we are building a transportation system to serve people, the expressway is a good place to stop."



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Circle 6 on coupon page 41

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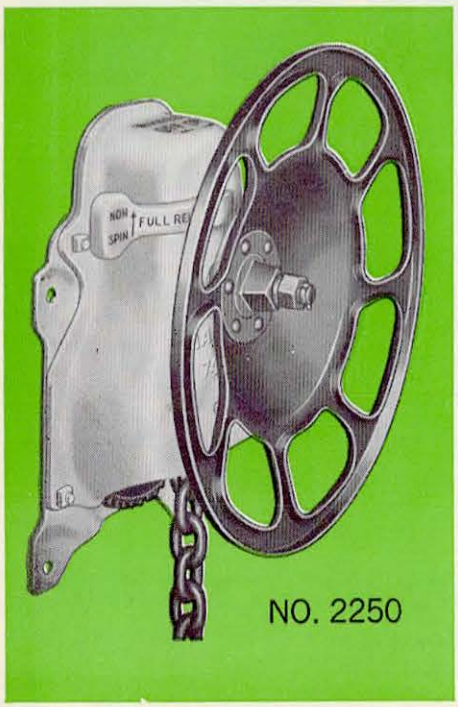
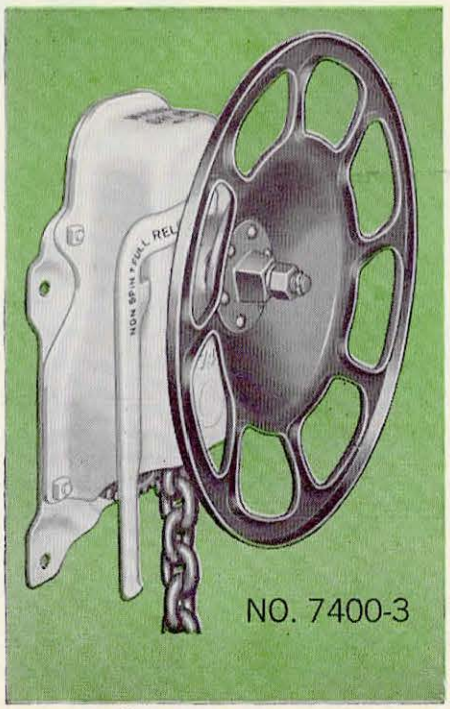
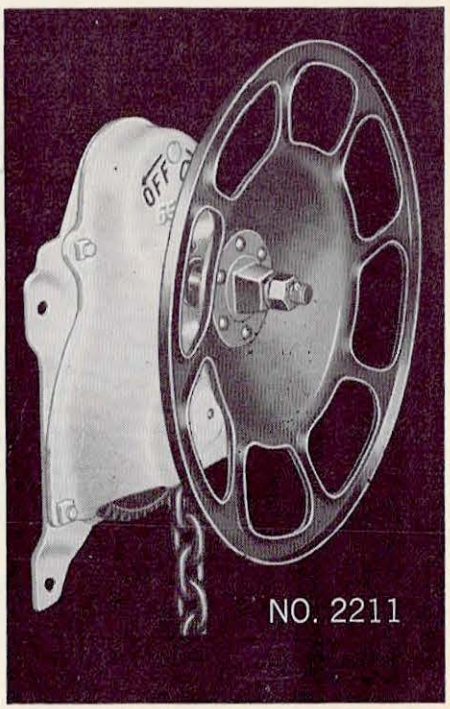



Circle 7 on coupon page 41

# RAILWAY AGE NEWS

## PC moves boldly to trim labor costs and raise capital

Now forecasting a fully-accrued loss of $241 million in 1971—$52 million greater than the loss estimated earlier this year—Penn Central last week disclosed its strategy for combatting the problem that its bankruptcy trustees feel is the worst of them all: excessive labor costs. In a series of moves, the carrier:

(1) Filed Section 6 notices with the United Transportation Union in an effort to renegotiate the so-called Luna-Saunders agreements on the size of train crews.

(2) Said it will ask Congress to amend the Railway Labor Act so that labor disputes involving bankrupt carriers can be arbitrarily resolved by the bankruptcy court if the case remains unsolved after 90 days. (Under the present RLA machinery, cases can drag on for years.)

(3) Announced that it will ask for Federal legislation pre-empting state laws which require five-man crews in Ohio and six-man crews in Indiana.

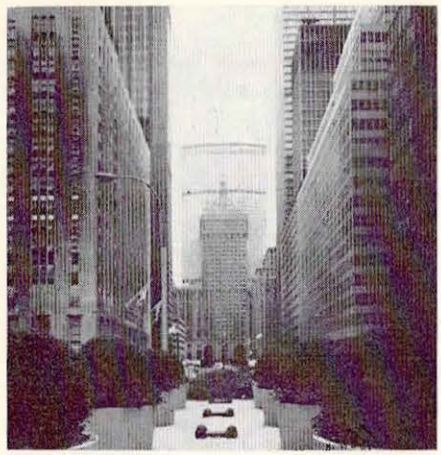
Penn Central is now paying 65% of its revenues in labor costs, compared with a 58% industry-wide average.

In its Section 6 notices, PC told the UTU that it proposes to "eliminate all restrictions on the number of conductors and trainmen employed on trains and reserve to management the determination of train-crew sizes effective July 15."

This action was in line with a June 8 statement by the trustees, at a Philadelphia news conference, that steps would be taken immediately to reduce operating crews to three men "as a necessary move to restore the company to viability." The railroad proposed an initial conference on July 7 to discuss the proposal.

The trustees said that Penn Central, with three-man crews, could eventually eliminate 8,900 jobs (through attrition) for annual savings of $135 million.

It was at the June 8 news conference that the trustees announced their upward revision of this year's estimated loss. They blamed the soft economy for Penn Central's failure to realize freight revenues at the level anticipated earlier. At the same time they were able to announce that freight revenues did rise by 13% in the first quarter of 1971; and that PC had increased its share of freight in the Eastern district from 32.5% to 33.7%.



**FOR SALE:** Park avenue properties worth an estimated $1.2 billion.

Recalling that arrangements have now been made for the acquisition of some 7,000 new freight cars this year, the trustees said no further purchases were planned in '71. The bad-order ratio is hovering at around 8%.

A week earlier the trustees, reversing a previous decision, had announced that they were putting Penn Central's Park Avenue properties in Manhattan, worth an estimated $1.2 billion, on the market.

The Park Avenue properties involved in the proposed sale cover 10 blocks within a 20-acre area between Madison and Lexington Avenues on the west and east, and 42nd and 52nd streets on the south and north. Offered for sale outright are the Barclay, Biltmore, Commodore and Roosevelt hotels, along with office buildings at 466 Lexington Avenue and 52 Vanderbilt Avenue. Buildings on 17 other parcels of land—including the Pan American Building and the Waldorf-Astoria Hotel—will become the property of the land-owners when leaseholds expire.

The company's announcement conceded that "the availability of cash to the railroad from any sales would depend upon the timing of the sales as well as the ultimate disposition of encumbrances, such as mortgages, and other interests affecting the properties." Litigation involving these matters may limit the ability of the railroad to derive immediate cash.

## New court rulings cloud labor scene

The U.S. Supreme Court handed down two rulings in rail labor cases during the first two weeks of June:

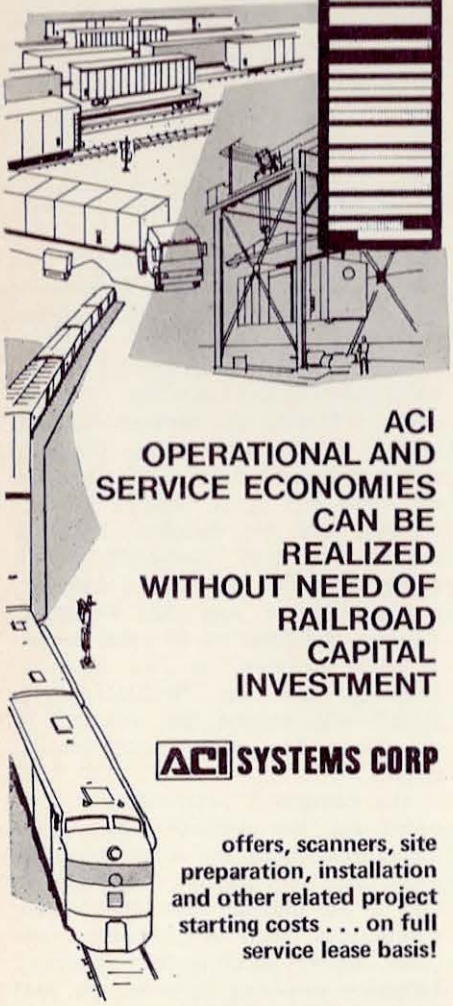
—A strike may be enjoined, if a Federal court decides that a union has not exerted "every reasonable effort" to arrive at a settlement.

—Unions may use the selective-strike weapon to back up contract demands which are industry-wide.

The first ruling, in a case involving Chicago & North Western and the United Transportation Union, could be regarded as a victory for the carriers. The second ruling, growing out of UTU's threat to strike Burlington Northern and Seaboard Coast Line in a national wage/rules case, shapes up as a victory for labor. Observers, however, are being cautious about labeling either decision—noting that the court's findings are not mutually exclusive, and that the railroads could make an "every reasonable effort" case in a selective strike situation. In the long run, the "every reasonable effort" decision (which came on a 5-4 split) could be the more significant one. It lays to rest an old question regarding the issuance of injunctions in the face of a seeming prohibition under the Norris-Laguardia Act. And it establishes that the "every reasonable effort" mandate in the Railway Labor Act "is not a mere statement of policy or exhortation to the parties." Rather, the high court said, "it is designed to be a legal obligation, enforceable by whatever appropriate means might be developed on a case-by-case basis."

THINKING ACI SAVINGS?

ACI Systems Corp



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Circle 8 on coupon page 41

# Rail route studied for Alaska oil

A rail corridor through Canada to Alaska's North Slope oil fields is getting close study from the Canadian Institute of Guided Ground Transport and the Transportation Research Institute of Carnegie-Mellon University in the U. S. Earlier, a conservationist group had urged the U. S. government to investigate rail transportation as a "serious alternative" to the Trans Alaska Pipeline and Shipping (TAPS) route (RA, March 8, p. 8).

Professor C. E. Law of the Canadian group summarized the study: "The purpose of this railroad would be to move Arctic oil to the U. S. and Canadian markets at volumes competitive with pipeline volumes; the joint task force is to determine costs. From the preliminary studies, they appear to be on the same general order as pipeline costs." The railroad probably would represent a 500-mile extension of the Great Slave Lake Railway from Hay River in Canada's Northwest Territories northwest to the oil fields which are now being developed.

Cited as an advantage of the rail mode would be increases in track and train capacities paced to match oil volume as the fields develop. For a pipeline, all financing and development demands would have to be faced initially.

One estimate is for $1-million-per-mile construction costs for the pipeline. Initial capital costs of a railway would be smaller, but its annual operating costs would be higher than those of a pipeline. One Canadian pipeline expert has noted that a railroad would be capable not only of transporting oil and liquefied petroleum gas, but also mineral ores from northern mines, general cargo and people.

Professor R. E. Rise of Carnegie-Mellon points out that "a trans-Canada Alaska resource railway would be one of the largest transportation projects of this century. Aside from its importance in developing immediate energy resources, it would be of significant economic interest to both Canadian and American commerce."

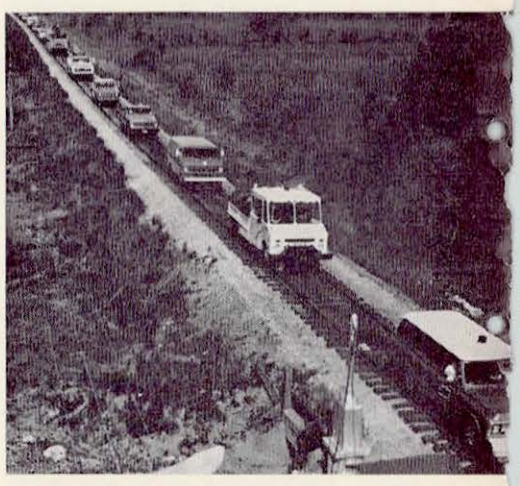
# Apprenticeship parley scheduled

Dr. William J. Ronan, chairman of the Metropolitan Transportation Authority, will be the keynote speaker at the seventh annual National Transportation Apprenticeship Conference to be held at New York's Statler Hilton Hotel Sept. 27-30. Railroad, air, highway and maritime interests will be represented.

The conference is designed to serve as "a forum for the exchange of information and to stimulate discussion of ideas and techniques on apprenticeship and training in various segments of the transportation industries."

# Rail p.r. program covers a wide field

Railroad public relations officers will take a broad-gauge look at the industry and its problems at the annual meeting of the Railroad Public Relations Association beginning June 20 at Lake Ozark. Workshop sessions will be held on safety, labor/management affairs, and legislative activities. Among the speakers will be the ICC's Donald W. Brewer, AAR President Stephen Ailes, Edwin Edel of FRA Public Affairs, and Astro Executive Director Richard Briggs.



# Automotive caravan rides the rails

You couldn't blame the farmers and townspeople along Frisco's mainline for doing a double-take—because it's not every day that a caravan of automotive equipment comes rolling down the rails. The occasion was the annual meeting of the Railway Automotive Management Association at Springfield, Mo.

The caravan made a 16-mile run over the mainline between Teed and Northview, Mo. Railroads and suppliers provided the equipment, which included a 40-passenger bus and several cranes as well as more conventional auto and truck units.

## Santa Fe wins top safety award

The E. H. Harriman Memorial Awards for 1970 were announced at a Washington luncheon June 9. The Santa Fe won the gold medal for employee safety in its group, which covers the largest railroads in terms of man-hours worked. A total of twelve awards, in four groups, were presented for employee safety, along with four certificates of commendation for improvement in employee safety.

The awards went to:

Group A (Class I line-haul railroads working 20 million man hours or more a year): Santa Fe, gold; Southern Pacific Lines (including Northwestern Pacific), silver; Union Pacific, bronze; Santa Fe, commendation.

Group B (Class I line-haul railroads working 5 million but less than 20 million man hours a year): Cotton Belt, gold; Elgin, Joliet & Eastern, silver; Denver & Rio Grande Western, bronze; Katy, commendation.

Group C (Class I line-haul railroads working less than 5 million man-hours a year): Canadian Pacific (Maine), gold; Monongahela, silver; Bangor & Aroostook, bronze; Canadian Pacific (Maine), commendation.

Group ST (Class I switching and terminal companies): Union Railroad, gold; Kentucky & Indiana Terminal, silver; Indiana Harbor Belt, bronze; Union Railroad, commendation.

Winners in the passenger group (Class I railroads reporting 100 million passenger-miles or more a year) were Chicago & North Western, gold; Seaboard Coast Line, silver; and Union Pacific, bronze.

## IC tests new ticket vending machines

Illinois Central commuters at one of the road's busier stations (Homewood, Ill.) are now sampling the latest in automation—automatic ticket-vending machines, which dispense weekly, one-way and round-trip tickets. All the commuter has to do is press a button for the type of ticket and destination desired, read the ticket price which flashes on in a window, insert the cash and get back the ticket and whatever change may be due.

IC's machines will accept and change $1 and $5 bills and any combination of coins. And, IC thoughtfully adds, "Should you encounter any difficulties with this test equipment, just use the 'call for aid' box."

# Watching Washington

REID BEDDOW

### HOPES HIGH FOR TAX CREDIT

Sources close to Rep. Wilbur Mills (D.-Ark.), chairman of the House Ways and Means Committee, were predicting last week that the committee would report out a bill reinstating the investment tax credit later this month. They expect swift House and Senate approval. What's more, they anticipate that the Administration, with unemployment at a nine-year high and investment capital shrinking, will back the measure. Reinstatement of the tax credit would, of course, have important implications for railroad capital outlays. It has been estimated that return of this investment incentive would stimulate orders for 15,000 additional freight cars a year.

Industry leaders have received private assurances that any reinstatement of the tax credit would be retroactive to April 1—which means that there need be no lessening of the normal flow of equipment orders while Congress makes up its mind.

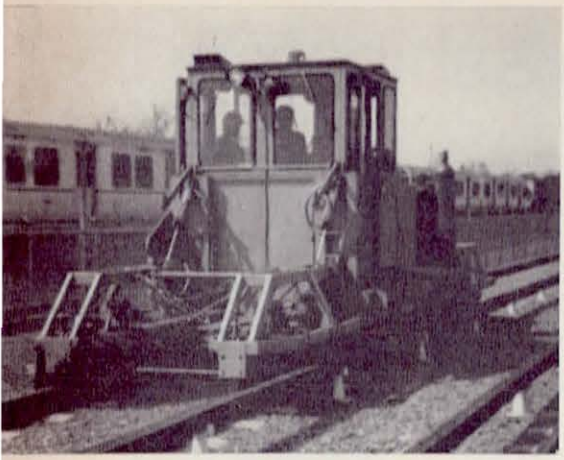
The release on June 2 of the government's latest estimates of capital investment for all industry provided new ammunition for tax-credit advocates. The joint survey by the U. S. Department of Commerce and the Securities and Exchange Commission forecast total capital expenditures of $81.8 billion, a sharp downward revision from earlier forecasts. The survey estimated that railroad outlays in 1971 would total $1.73 billion, 2.6% below last year's $1.89 billion.

### GOVERNMENT TRANSPORT OUTLAYS AT RECORD HIGH

There is one area where investment is *not* declining, and railroads aren't any happier about it than they have ever been. The AAR has released a study showing that Federal, state and local governments will invest a record $25 billion in transportation facilities in 1971. Even with a $40-million, one-shot appropriation for Amtrak, says the AAR, railroad projects will get less than one-fifth of 1% of the total. As in past years, the largest portion of transportation spending at all government levels will go to highways, with an increase from $20 billion to $21.6 billion forecast. Waterways will come in second with $920 million.

### RAIL LEADERS AT WHITE HOUSE PARLEY

A dozen railroad executives were invited to the White House June 10 for 40 minutes. They stayed for an hour and 20 minutes—and President Nixon was present the entire time. The railroad men were impressed with the President's grasp of the industry's problems, short and long range. Some of the Administration's proposals for helping rails were discussed, including a degree of deregulation, greater pricing flexibility, easier entry into competitive modes. Invited to the session were AAR President Stephen Ailes; Frank Barnett, UP; Benjamin Biaggini, SP; Graham Claytor, Southern; John Fishwick, N&W; William Johnson, IC; Spencer Miller, Maine Central; Louis Menk, BN; William Moore, Penn Central; John Reed, Santa Fe; Thomas Rice, SCL; Hays Watkins, C&O/B&O.



## MBTA surface-grinds new South Shore rail

New rail laid on the 6-mile-long South Shore extension at Boston of the Massachusetts Bay Transportation Authority is being surface-ground throughout the length of the double-track line. The purpose is to remove rust and mill scale from the rail running surface and reduce the height of the crowns at joint welds. Work is being done by the Mannix rail grinder built by Mannix Construction, Inc., Minneapolis. It uses 16 grinding stones, eight at each rail. Working 10-hour days, it was estimated that the machine would complete the job in 20 days.

## Amtrak restores "North Coast" route

Senate Majority Leader Mike Mansfield jubilantly revealed and Amtrak soberly confirmed last week that Amtrak will add a new Minneapolis to Seattle route June 15 to its existing national passenger train network. The service—over the former Burlington Northern "North Coast Limited" route, discontinued April 30—will connect Fargo and Bismarck, N. D.; Billings, Butte, and Missoula, Mont; Sandpoint, Idaho, and Spokane and Everett, Wash., three times a week. The new service supplements Amtrak's existing Chicago-to-Seattle route through northern Montana. Significantly, Amtrak will add the route without local or state matching funds, the statutory method it recently used to restore Buffalo-Cleveland-Toledo and Boston-Worcester service. While Sen. Mansfield, unquestionably the most vocal critic of Amtrak's route reductions, was placated by restoration of the southern Montana route, Amtrak said its decision had also been influenced by Interior Department efforts to limit the heavy volume of congesting auto traffic into Yellowstone National Park. This may mean the new service will only operate on a summertime basis.

Amtrak also announced last week its first major staff appointments. Named as vice presidents were: Marketing, Harold L. Graham, 54, former vice president of service, Pan American World Airways; planning, D. A. Watts, 40, former director of corporate planning, C&O/B&O; government relations, Gerald D. Morgan, 63, partner in the Washington law firm of Hamel, Morgan, Park & Saunders and a former White House assistant in the Eisenhower administration; personnel and administration, Kenneth A. Housman, 46, former assistant postmaster general in the bureau of personnel; comptroller, Sidney Smith Sterns, 53, financial consultant. Unfilled last week were vice presidencies in operations, public affairs and law.

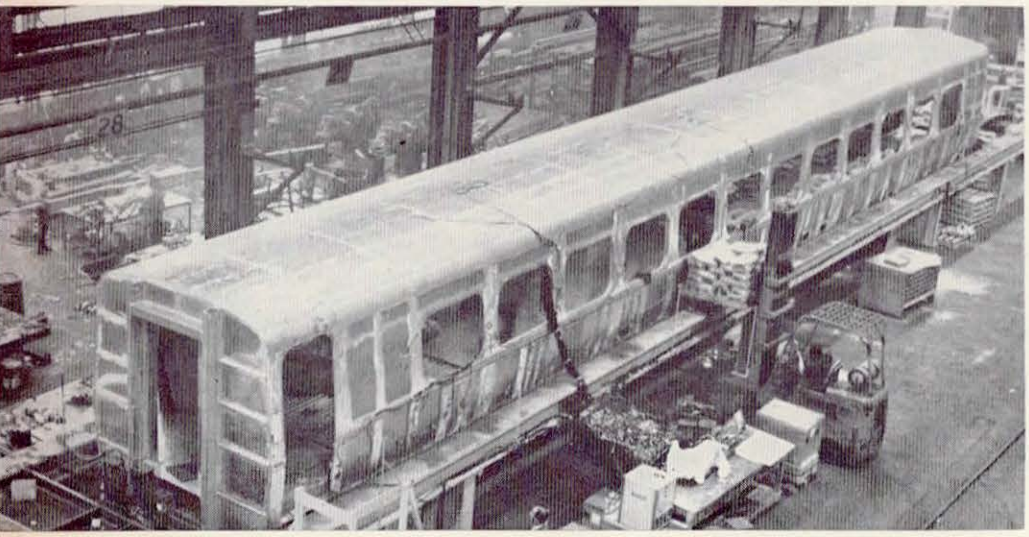
There were these other Amtrak developments:

—Western Airlines proposed a cooperative effort with the rail passenger carrier. The proposal embodies air-rail promotion of Western travel with joint tours, ticketing, interline agreements, and acceptance of each carrier's exchange orders.

—President Nixon nominated Amtrak Trustee Catherine May Bedell, former Republican Congresswoman from Washington, to be a member of the Federal Tariff Commission. If confirmed, her departure will leave a vacancy among Amtrak's eight Presidentially-appointed directors.

—Having abolished free passes for railroad workers on May 15, Amtrak averted a strike by the International Brotherhood of Electrical Workers, which claimed it had an agreement with PC on passes, by obtaining a court injunction. Henceforth, rail workers of roads within the Amtrak system, when traveling on personal business, will have to pay half-fare for themselves and their families.

—Amtrak directors decided to keep their headquarters in Washington.



## LRC prototype car gets structural tests

Structural tests of the first coach for a new lightweight passenger train under development in Canada have been conducted at the plant of MLW Industries in Montreal. It is expected that this prototype car will be ready for road testing in July. The train, now designated LRC (for lightweight, rapid, comfortable) is a joint development of MLW, Alcan and Dofasco. The goal is weight ratios and a suspension system that will allow 120 mph speeds over existing trackage. A diesel-electric locomotive of advanced exterior design is being developed to power the experimental train.

## SF rails promote land developments

About $90 million worth of new construction may soon be under way in two San Francisco Bay area projects—with Southern Pacific and Santa Fe very much in on the action. SP has plans for a $65-million office/retail complex (including two office towers), to be built around the SP headquarters building on Market Street in downtown San Francisco. Across the bay, on the Oakland-Alameda estuary, Santa Fe Land Improvement Co. and another development firm are planning a $25-million waterfront village, which will include low-rise residential units, offices and shops and harbor facilities.

## Cafferty named to succeed DeMent

New chairman of the Chicago Transit Board will be Michael J. Cafferty, former acting assistant secretary at DOT. Appointed to CTB by Chicago Mayor Richard J. Daley late in April (RA, May 10, p. 59), Cafferty succeeds the late George L. DeMent as board chairman. Among his government transit credentials: Service as special assistant to Illinois Central President Alan S. Boyd when Boyd was CAB chairman; as consultant and special advisor to Mayor J. D. Braman on the Seattle Transportation Plan; and as deputy assistant secretary for Urban Systems and Environment at DOT.

## Freight L&D payout hits $228 million

The final tabulation is in on the freight loss and damage payout for 1971—and the total is $228,316,389, an increase of 8.7% from 1969's $210,100,163 payout. The ratio to gross freight revenues in '71 was 1.97%, up from 1.92%. And, last year also showed increases in amounts held in suspense accounts at the end of the year (up 13.1%) and in new claims filed (up 6.5%).

Payout reductions were reported on a number of commodities, including household appliances, down 27%. But there were also sharp increases on other commodities: Payout on claims on motor vehicles increased by almost 40%, from $21.8 million to almost $30.5 million—and thus that commodity-claim increase alone came close to accounting for half of the over-all jump in payout.

## Mechanical Division meets June 23-24

The 42nd annual meeting of the AAR's Mechanical Division will be held in the Sheraton-Chicago Hotel June 23-24. First-day speakers will be Division Chairman Joe G. Moore, assistant vice president, mechanical, Southern; AAR President Stephen G. Ailes; and Dr. William J. Harris, Jr., AAR vice president, Research and Test Department. On the second day, addresses by T. E. Desch, vice chairman and chief executive officer, Rock Island, and Henry A. Correa, chairman of the Railway Progress Institute and president, ACF Industries, are scheduled.

**CITED BY AD MANAGERS:** Accepting ARAM awards were 3M Co.'s James Inwalt; U.S. Steel's W. Richard Barnhart; National Park Service's Richard R. Krepela; ACF's George Corcoran; Pullman-Standard's J. James Stallman; Bethlehem Steel's Hall.

## ARAM names six Golden Spike winners

The Association of Railroad Advertising Managers has presented Golden Spike Awards to five suppliers and one government agency for "outstanding contributions through advertising toward a better understanding of railroads." In a departure from past practice, ARAM presented Golden Spikes to all winners and listed them alphabetically.

Previously, there was one Golden Spike winner with Silver Spikes and Merit Awards going to runners up.

This year's Golden Spikes went to: ACF Industries, Inc. (George R. Corcoran, manager—advertising and public relations; agency: Ketchum, MacLeod & Grove); Bethlehem Steel Corp. (Roland B. Hall, assistant manager of advertising; agency: Van Brunt & Co.); 3M Co. (James Inwalt, regional manager, Atlanta; agency: Batten, Barton, Durstine & Osborn); National Park Service (Richard R. Krepela, assistant chief, division of audiovisual arts); Pullman-Standard (J. James Stallman, director of advertising; agency: Lawrence Holmberg Co.); U.S. Steel (W. Richard Barnhart, program manager—advertising; agency: Compton, Inc.).

The 3M Co. and the National Park Service were cited for filmed documentaries. The other winners were cited for advertising campaigns.

Judges for the Golden Spike competition were John Loughane, managing director, College of Advanced Traffic, Chicago; John McIntosh, Jr., publisher, Handling & Shipping; and Patrick E. O'Brien, vice president, J. Walter Thompson Co. The awards were announced at ARAM's annual meeting in Atlanta (RA, May 31, p. 14).

## Santa Fe, N&W make service speedier

In a display of all-around fast action, the ICC Santa Fe and Norfolk & Western have teamed up to make possible a significant service improvement on traffic moving through the Kansas City gateway. Under a new trackage-rights agreement, N&W is operating over about 30 miles of Santa Fe track between Camden, Mo., and Santa Fe's Argentine Yard, making delivery of westbound trains to the yard and picking up eastbound trains there instead of at Camden.

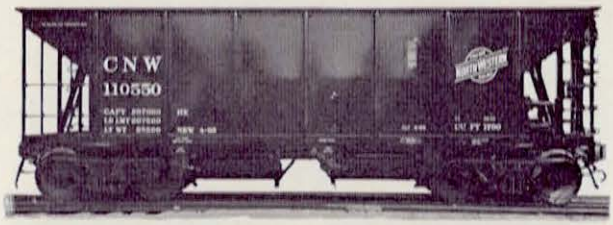
Time savings range from a few hours to a full day. N&W filed application for the trackage rights with the ICC on March 9, the Commission gave its approval May 19, and the first train movements under the agreement were made May 22.

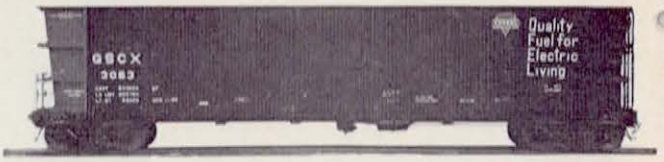
Santa Fe President John S. Reed and N&W President John P. Fishwick had this observation: "Speedy approval of the application by the Commission is recognition on their part that this is the kind of proposal they have been advocating to railroads as a way to move ahead through mutual self-help."

## Wythe Quarles named to Retirement Board

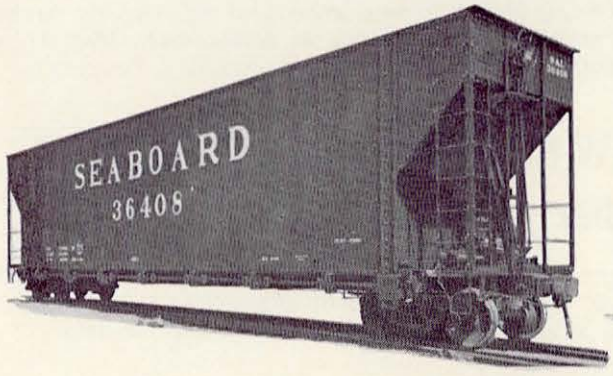
Wythe D. Quarles, Jr., is slated to become the management member on the three-member Railroad Retirement Board. Quarles, vice chairman of the National Railway Labor Conference since early 1966, will succeed the late Thomas M. Healy, who died last September after serving on the Board since 1955.

ORE, AGGREGATE AND COAL . . .

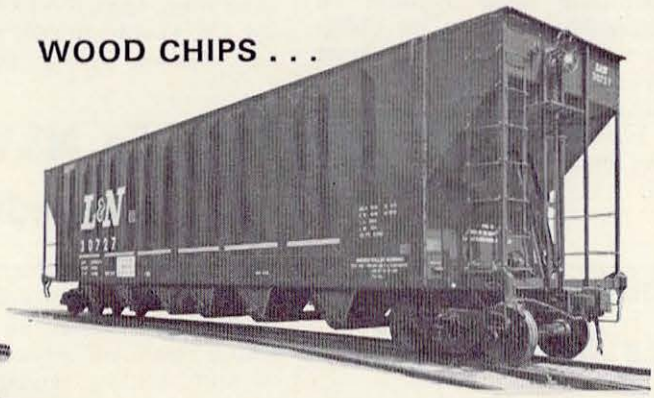


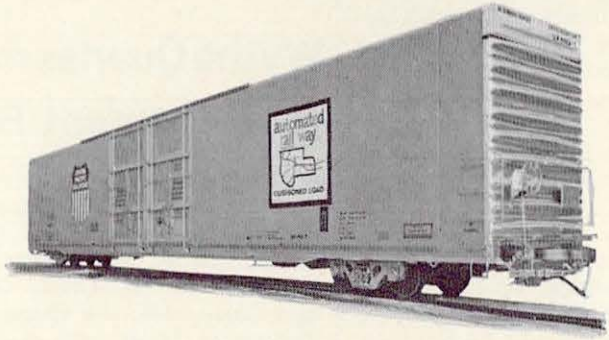



# If you think you need special cars to win more traffic in the '70's, you haven't talked to




WOOD CHIPS . . .

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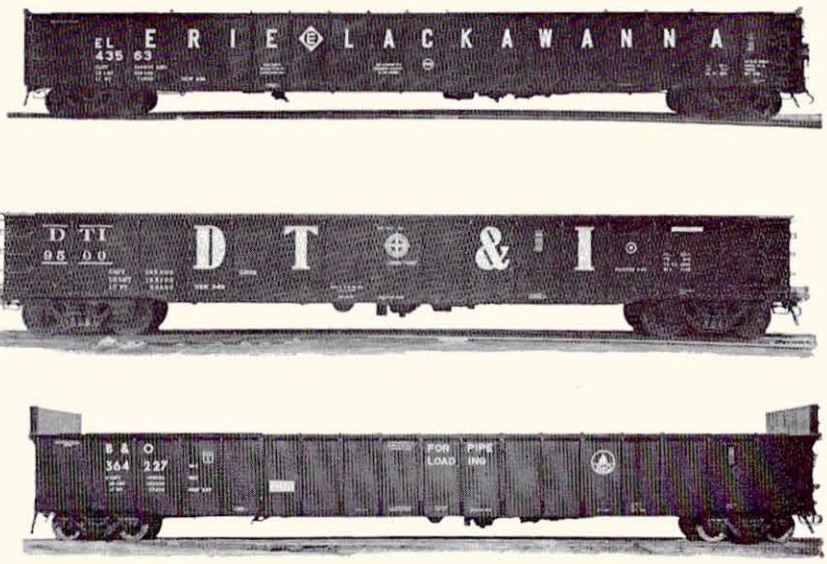
Why us? Because we build more kinds of cars than any other contract builder. That means we either already have car designs to meet your needs or can shorten new car construction time through modification of those designs. In either case, you're well up the road to profit when you go Greenville.

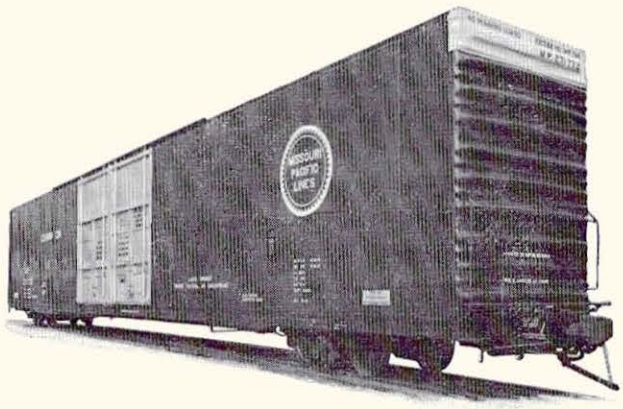
There's no doubt that competition will be stronger than ever before between the roads themselves and between rail and other carriers. But one thing is clear: The roads equipped to handle the ever-changing variety of sizes, shapes and types of cargo will handle the profit tonnage of the '70's.

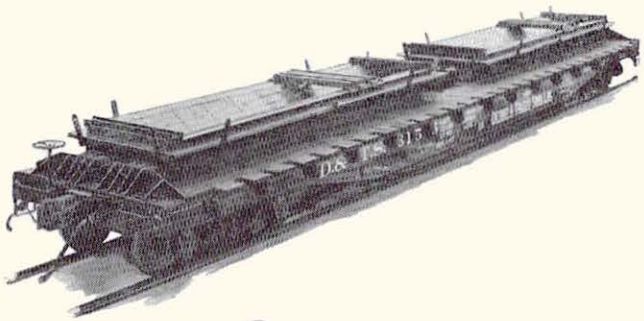
And you? A great place to start preparing for profit tonnage in the next few years is with Greenville. Call us; you'll see.

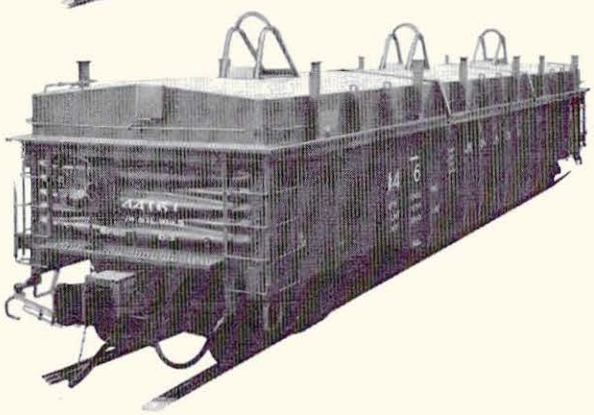
PIPE . . .



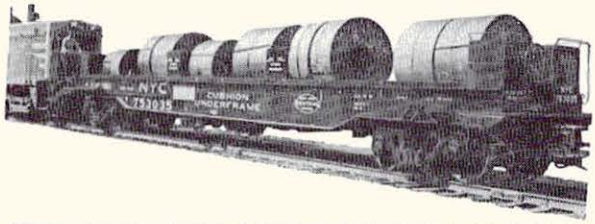

# GREENVILLE.







STEEL . . .



## GREENVILLE STEEL CAR COMPANY

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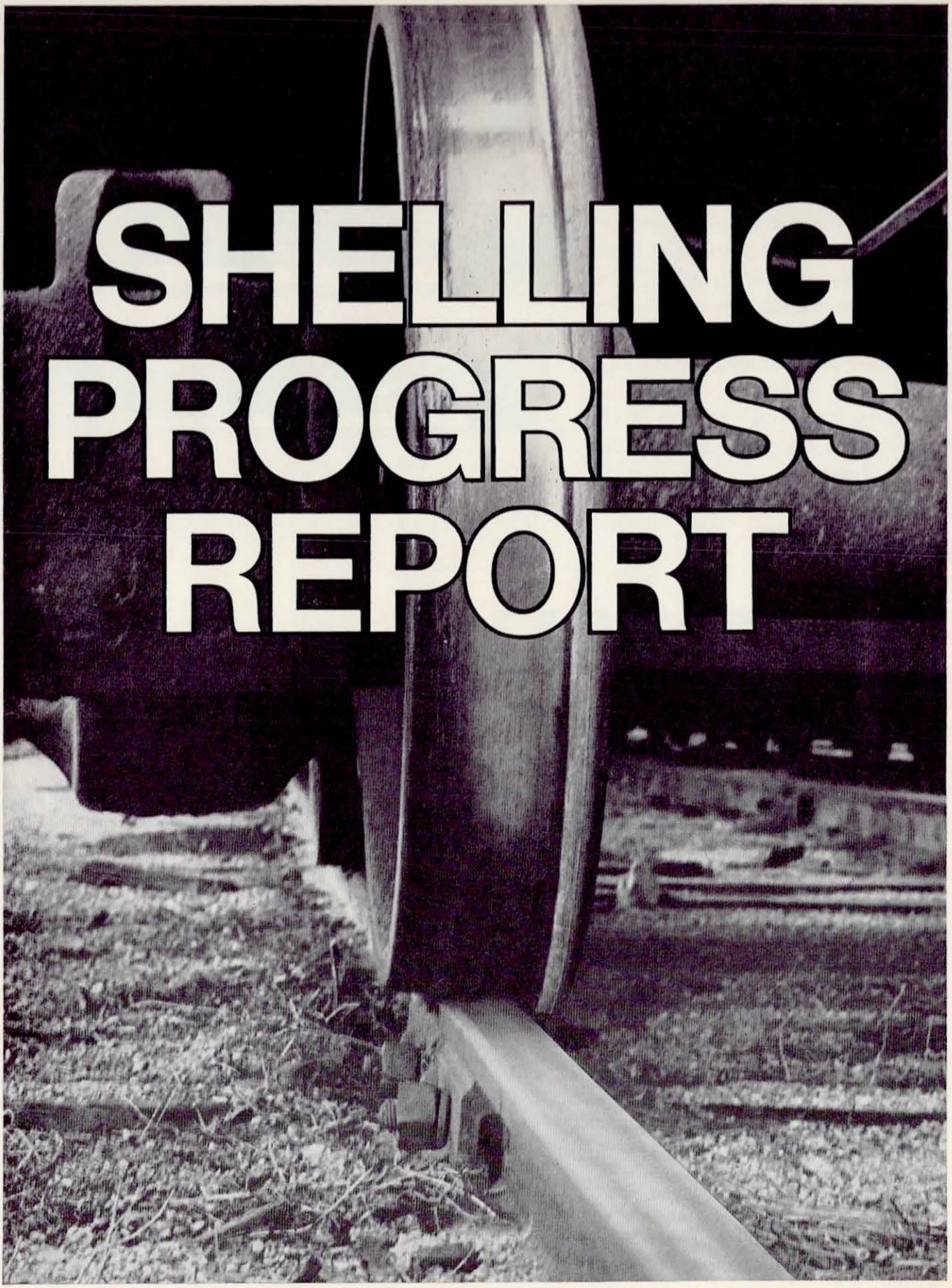
SHELLING
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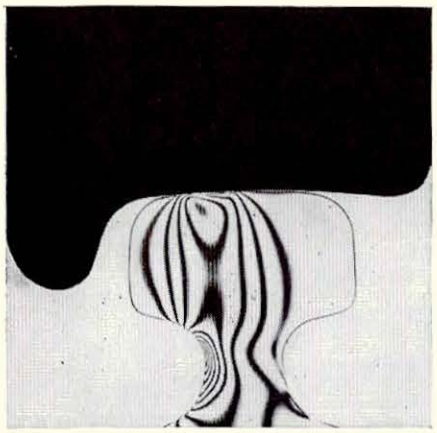
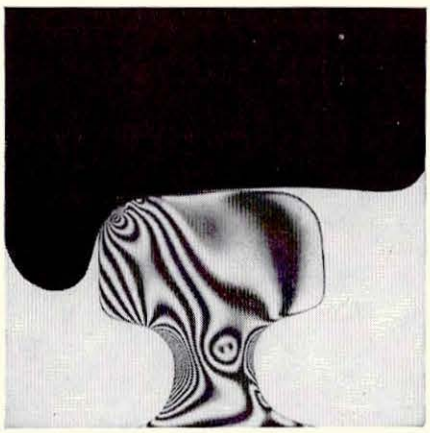


Cross sectional view of rail with stress patterns under normal riding conditions using worn wheel on new tangent track.



Cross sectional view of rail with stress patterns showing small bearing area on curved track section using standard 1:40 tie plates.

Cross sectional view showing use of CF&I Hi-Cant 1:14 ratio Tie Plates on high rail of curved track. Note how stress and wheel bearing area approximate that of standard tangent track.

# An additional 2°45′ angle in CF&I Hi-Cant Tie Plate is an answer to shelling

CF&I believes they have provided a solution to the problem of curved track shelling.

The problem is a familiar one — load and other factors as they are affected by wheel-to-rail relationships. As heavily loaded cars enter curves, distribution of stress on the high rail is transferred from a broad bearing area to an extremely small bearing surface on the gauge corner. Too frequently these stresses reach a magnitude where metal slippage or shearing occurs. The shell is born. With it, rail longevity and economy are lost. Safety is impaired.

What the CF&I Hi-Cant Tie Plate does is increase the angle at which the high rail is laid by 2°45′. The net effect is to allow the high rail to present a bearing surface to the wheel that is comparable to that of tangent track.

The result... based on CF&I's testing through 13 major carriers on more than 131 curves is bearing out the contention that *Hi-Cant Plates will certainly delay, if not completely defer shelling on curved sections of track.*

CF&I urges you to judge Hi-Cant Tie Plates for yourself. Ask us about it today.

CF&I Steel Corporation
a subsidiary of Crane Co.
Pueblo, Colorado

CF&I STEEL

Circle 10 on coupon page 41

# Traveling companions

## for your next car program

Order the complete, reliable air brake accessory package from Gustin-Bacon, and you can expect high quality, long service and fast delivery. Over 37 years of service to the railroad industry.

**Welded fittings:** G-B welded fittings are designed to meet your requirements for welded air brake systems. A complete line available including elbows, straight fittings, tees.

**Brake Cylinder Release Valves:** G-B brake cylinder release valves constantly measure pressure. React instantly and correctly when activated. Mandatory lockout feature prevents accidental tripping under conditions of light brake application.

**Locktite® Cotters:** G-B Locktite cotters automatically spread to the proper pitch (without fracturing metal) to hold tightly in standard size holes. Saves time, and are safer to apply than ordinary cotters.

For information write Gustin-Bacon Division, P. O. Box 15079-Q, Kansas City, Kansas 66115.

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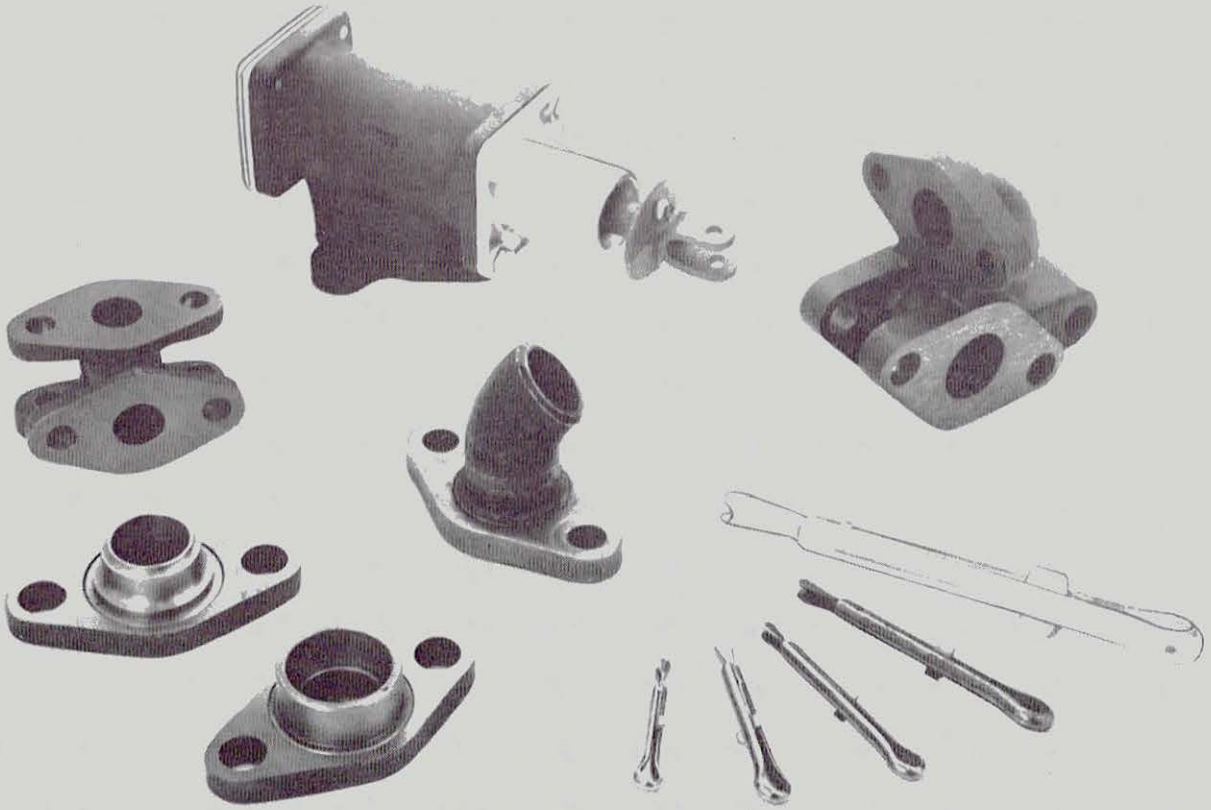

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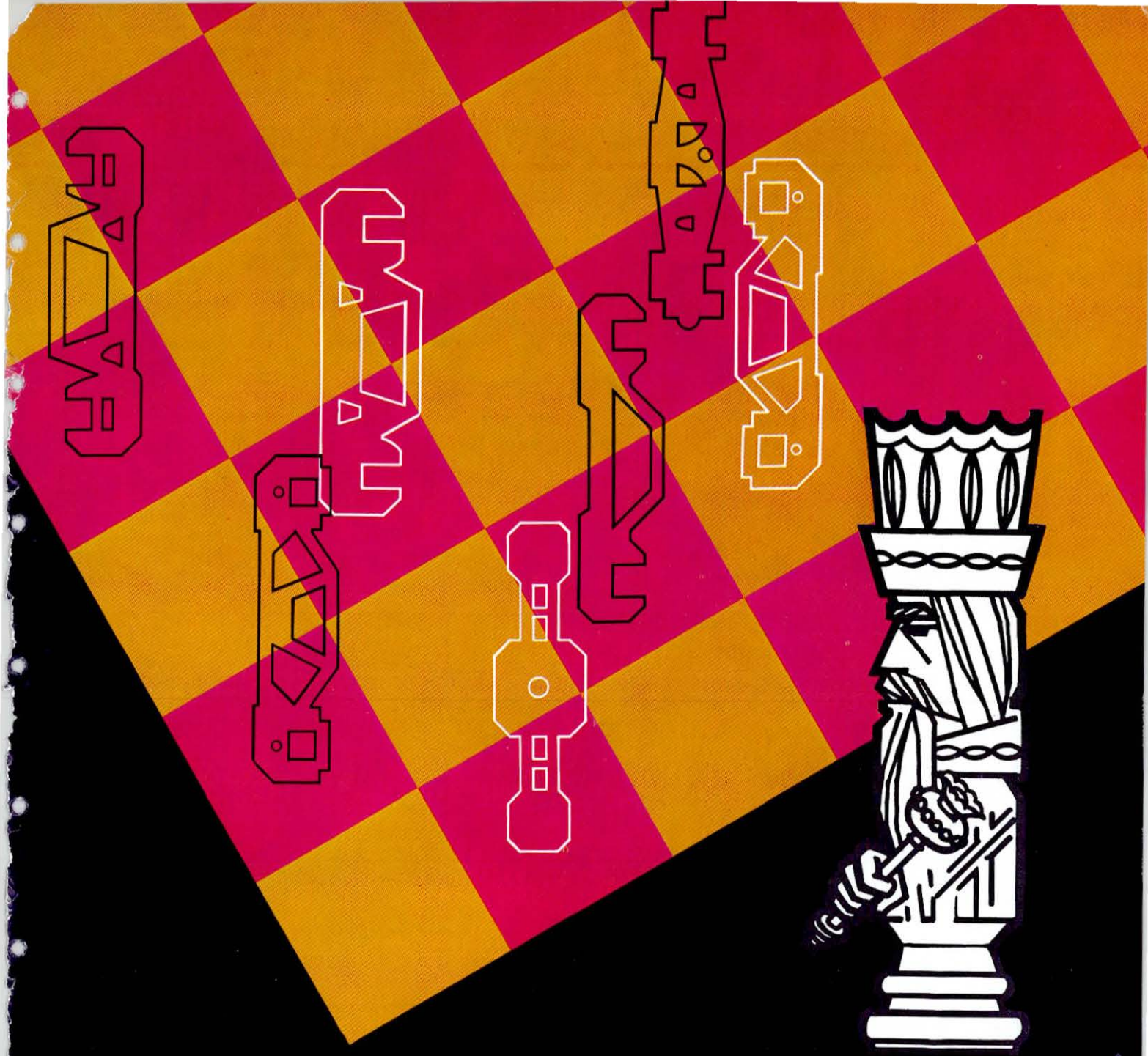

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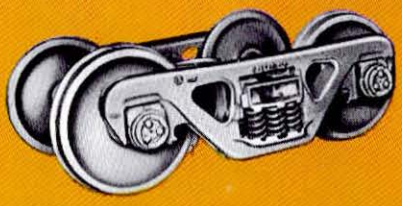
ASF is first with the largest variety of truck patterns in the industry. We're first with 68 years experience in research, engineering, and production. Our new electric furnaces produce the finest quality steel. So, make your move a winning one and move your cars with ASF-furnished Side Frames and Bolsters.



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# LUBRICATION ENGINEERING NEWS

**New, improved railroad lubricants under development at mile-long Cities Service research center**

Cities Service Oil Company maintains an aggressive and continuing research and development program at the Cities Service Research Center complex near Princeton, New Jersey. Improved products for railroad applications, both on track and off, are under constant development and testing. Within the past two years alone, superior lubricants have been introduced for a number of different applications. In

many cases, these advanced railroad lubes have taken the place of two or more previous products and thus served to shorten the list of "required" lubricants in customers' inventories.

For information on specific products now under development and available for test application programs, drop a line to L. M. Fleming, Transportation, Sales Department, Cities Service Oil Company, Box 300, Tulsa, Oklahoma 74102.

## Pistons and rings give longer service when lubricated with CITGO RD-836 Diesel Engine Oil

The promise of pulling more tonnage with fewer units and a resultant decrease in maintenance costs has remained little more than a promise in many cases. Higher horsepower diesel engines place greater demands on the crankcase oil and on those moving parts whose life depends on effective lubrication. Conventional high dispersant diesel lube oils just couldn't handle the load. Something better had to be developed.

That something better turned out to be CITGO RD-836, specifically formulated to get the maximum usage from each new high horsepower engine. RD-836 withstands more heat for longer periods; neutralizes greater amounts of acid; keeps oil filters and engine surfaces cleaner. Wear is reduced and oil life is significantly extended, resulting in less downtime and lower maintenance costs.

Thirteen major railroads are now using CITGO RD-836. In case after case, examination of pistons, rings and cylinders following thousands of hours of operation shows virtually no wear.

**Oustanding reserve alkalinity and stability**

Among the properties which enhance the performance capabilities of CITGO RD-836 diesel engine oil include excellent reserve alkalinity for extended TBN retention, very fine compatibility with other approved diesel engine oils and unusual stability, which helps eliminate clutch slippage.

**CITGO RAILROAD LUBRICANTS EXCEED THE NEED.**

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In addition to these qualities, RD-836 also possesses exceptional anti-rust and anti-foam properties provided by special components in the additive package. The superior grade medium VI base stocks contribute exceptional oxidation stability and anti-wear protection along with good silver lubricity.

**Dispersant, detergent keep engine parts clean, filters free-flowing.**

An ashless dispersant and a detergent additive are key ingredients in CITGO RD-836 diesel engine oil. Designed to provide both longer service intervals and extended filter life, its high dispersancy permits the

oil to flow readily through filter elements with a minimum of filter and oil cooler plugging. This is particularly important in the lubrication of engines equipped with by-pass valves, where particles in the unfiltered oil could otherwise settle out and cause abrasive damage to bearings.

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# Do company publications avoid the "gut" issues?

## In too many cases, the answer is "yes," suggests this communications expert.

**By NORMAN B. SIGBAND***

For many years, American railroads have successfully developed policies in a variety of different areas such as personnel, finance, operations, expansion and labor relations—but rarely have they done so in the vital aspect of communications.

Yet communications—with the employees and with the public—have become one of the major problem areas for the railroads. Certainly the image which many Americans have of passenger transportation, railroad profits, and consideration for the urban commuter, leaves much to be desired. And needless to say, the railroad's internal communication with its employees has frequently encountered barriers of significant proportions. For various reasons, labor organizations have communicated more successfully with railroad employees than has management.

Some of the reasons for this are not too difficult to discover. Most "company magazines" published by the railroads are filled with the pap of nonsense. Certainly there may be a place for "The stork is winking at Betty Komikoski in Department 26," and "Wedding bells will chime for Joe Burns of Department 18 and Dorothy Kelly of Department 64 on June 27" —but railroad employees are interested in more, much more.

These are intelligent, hard-working people who send sons to Vietnam, vote candidates into office carefully, read the papers critically, and are deeply concerned about inflation, government spending, ethnic confrontations, industrial profits and educational problems.

In these very critical times for America's railroads, employees want to know about their company's plans for next month and next year, and about what events of importance happened last month and last year.

Certainly they like to see their names in print as well as the names of their good friends around the system, and there is a place for that. But let us also deal with the "gut" issues in which the employees are interested. The union publications talk about prices, salaries, profits, expansions, mergers and government activities. Shouldn't the railroads give their employees information on these same topics from perhaps a little different perspective?

Fred C. Foy and Robert Harper, in an article in the *Harvard Business Review* some years ago, stated this about company publications addressed to employees:

"Management did not counteract union activity among employees on realistic 'breadbasket' subjects such as union leaders use as levers to promote national social legislation.

"Controversial subjects were avoided, but at the same time, attempts were consistently made to stimulate pride in the virtues of the American way of life. A steady reading diet of such flag-waving stories may prove an insult to the average worker's intelligence, for he too believes in the American way of life."

Although the content of some company publications has moved in the direction of day-to-day problems since that article was written, too many—especially in the field of transportation —still deal, to too great an extent, with nonsense.

C. J. Dover in *Management Communication on Controversial Issues* (Bureau of National Affairs) cites a Cornell University survey on employee publications which concludes that:

—"Economic concepts in all categories appear much more frequently in union publications than they do in company publications.

—"Union papers deal with very concrete and specific issues, while company papers are more prone to talk in economic generalities."

Dover also cites the results of research in which specific words were used over a period of time in company compared with union publications. It was found that "arbitration" appeared 544 times in a specific number of union publications and not once in company publications; "negotiation" was used 1,297 times in union publications as opposed to 50 times in company publications; "strike" and "wages" were used 1,364 and 1,467 times respectively

*Dr. Sigband is Chairman, Department of Marketing and Business Communications, University of Southern California, author of "Communication for Management" (Scott, Foresman 1969), as well as other books and articles, and a consultant in communications to many of America's leading corporations.

***"The climate for honest, two-way communications comes about after months of effort. But it's worth it."***

in union publications and zero and 233 times in company publications.

Dover goes on to say, in a no-nonsense paragraph:

"The bulk of the evidence leaves little doubt that managers, most of the time, are indeed conspicuously silent when it comes to stating company views on controversial issues. While most of the objective survey evidence has been confined to analysis and measurement of employee publications, such publications are the backbone of the total employee communication effort by management. Trends which appear in research on employee publications, therefore, are likely to be not too dissimilar to the broader areas of communication practices by management."

## Progress is being made

A steady trend in the right direction has been noted in recent years. Some railroads have accepted the fact that their employees are intelligent, concerned citizens who have a need to know about issues that affect their jobs, their salaries and their futures.

Some months ago, Santa Fe President John S. Reed began writing a page called "Viewpoint" for the "Santa Fe Magazine." It appears within the first few pages of the periodical and the subcaption under the heading "Viewpoint" states:

"Members of the Santa Fe family often ask management's position on matters affecting the industry. This page will present, each month, views on matters of company goals and positions on company-related issues."

Mr. Reed's comments in an issue of the Santa Fe Magazine which appeared in early 1971, were interesting, provocative and hard-hitting in the area of equal job opportunities: "Factors limiting the choice of the most qualified person on the basis of race, sex, religion, or national origin can have no place in this process . . . . We expect all our managers to do their part in promoting the cause of equal employment opportunities."

Material of this nature is appreciated by today's reader. He may not always agree, but at least he is apprised of how his company looks at areas of significance. Through discussion of serious and vital topics, President Reed is building policies of communication as well as citing factual data. And it is certainly better that employees read about sensitive, controversial, and important issues in their companies' publications than to hear (and too often accept) distorted versions from the rumor mill.

[Note: Since Dr. Sigband prepared this article, another road has undertaken an even more direct form of communication. In the "Norfolk & Western Magazine," Green Board to the President provides opportunity for employees to get their questions to President John P. Fishwick—for answers that come straight from the top. Response thus far, N&W says, indicates that employees do indeed "want to know."]

In a recent issue of *Railway Age*, a significant comment appeared concerning a readership survey of "MoPac News." The item stated:

"In a random-sample, anonymous-return survey, MoPac found that its tabloid has earned both a high readership and a high credibility quotient. The readership score was better than 90%—and, as a primary source of reliable information, 'MoPac News' came in first . . . among responding union members. Perhaps significantly, among union members, union publications actually came in fourth—behind the employee newspaper. . . . And what are employees interested in? First, news of how the company is doing, of employee benefits, of new company services and of the company's stand on major issues. Lower-ranked was the kind of coverage that still makes up a large part of many pubs—news of promotions, new personnel, retirees, company history.

"Not everything came up roses. . . . There was virtually an even split on the question of whether 'company management seems interested in what I think about MoPac.'

". . . You could put a number of interpretations on the MoPac survey results. One is that a kind of basic editorial philosophy is paying off: 'Concentrate on hard news, stay away from the pap. If you have something to say, say it. If you have a position, declare it. And don't make people guess as to where you stand.' "

This survey substantiates the fact that employees want the companies to tell it like it is. They are tired of, and frustrated by, innocuous news stories which occupy 90% of the space in many company publications.

Another railroad periodical that does a good job (and I'm sure there are several of which I'm unaware) is the "Illinois Central Magazine." Although 50% to 60% of each issue is taken up with employee personal news "from the divisions," there are also articles of interest. These include discussions of government legislation in the field of transportation, the problems of rail passenger travel, trends in car construction, rates and returns in freight movement, and so forth. Issues in the first half of 1971 carried articles titled, "Strike Closes Railroads," "Commuter Cars Nearly Ready," "Hotshot Trains Speed Mail," and "U.S. Dept. of Transportation Test Center in Colorado."

## Plan a program

Management must recognize that it attains its goals and objectives through people. And people—employees and customers—are largely motivated and persuaded by communications. Survey after survey indicates that compensation alone rarely fulfills the employees' needs in today's society.

This article can hardly touch on the many facets involved in communications with shippers, passengers and the general public. However, a few guidelines may be set down for communication with employees.

## Establish a policy

Just as a company has policies on finance, personnel, growth, marketing, claims, and so forth, so should it have policies on communication. However, few firms do. Thus, this is the first step—establishing policies and then disseminating them so that every manager, every supervisor, knows what he may or may not say in specific situations such as accidents, injuries, job terminations, strikes and the regular day-to-day activities which arise.

Policies of communications must be so structured as to permit managers and supervisors to communicate information that is timely, honest, significant and designed to satisfy the employees' need to know.

Effective policies of communication must be based on a desire to:

—Inform employees of corporate successes *and* failures,

—Inform employees of corporate goals and objectives,

—Explain sensitive and controversial situations such as labor problems, lay-offs and ethnic confrontations,

—Open lines of *two*-way communications where trust and honesty exist,

—Openly and freely discuss industry-wide problems and government actions which impinge on the railroads.

Once managers and supervisors recognize that the company's top ad-

ministration is serious about this and wants such policies implemented, then specific media and methods should be identified. However, how does the manager (and the employee) know when the railroad is "serious"? The answer is simple. They watch the actions and examples.

When the president or a division superintendent can stand and honestly discuss a company success or failure, or state a position strongly, others in the company will follow suit of "telling it like it is." And that's what people want today. The kids want it; the college students want it; and America's labor force wants it.

## Putting policies into practice

Consider a few of the communication areas where policies of communication can be implemented:

—Employee publications, including bulletins, the company magazine, letters from the president. Use these to discuss company goals and objectives; government policies or regulations as they apply to railroads; labor trends and activities; and competitive and other vital changes in the industry itself.

—Pay-envelope inserts for spot announcements of significant value.

—Periodic and carefully planned one-to-one discussions between individuals and their superiors to explore ideas, attitudes and feelings, appraise job performance, and secure suggestions, grievances and opinions.

—Conferences and meetings where discussion is open, free and honest and the voicing of different viewpoints is encouraged.

—Employee councils where representatives from employee groups meet with management to ask and answer questions, probe issues and explore controversial issues.

I am well aware that carrying out an effective policy of communication is not easy. And it doesn't happen overnight. A climate of trust and honesty must be built—and this takes time. Certainly an announcement which says "Beginning on the first of next month, we will all talk to each other openly and honestly about topics of significance," is ridiculous. The climate for honest, open, two-way communications at every level comes about after months of sincere effort. But it is worth it.

Your people want you to tell it like it is—consistently, honestly and tactfully. Let's put this information on the front burner; the engagements, weddings, and vacation highlights can wait "until later." But today's employee is a concerned citizen. Let's talk to him at that level—for the company's growth and progress as well as his. ■

# Lines on Labor

GUS WELTY

### STRIKERS GET SET TO COLLECT . . .

From time to time, rail management people and editorial writers call bitter attention to the fact that rail strikes are subsidized, through payment of railroad-supported unemployment benefits to strikers and other employees who refuse to cross picket lines. It's estimated, for instance, that in the less-than-two-day walkout of Brotherhood of Railroad Signalmen employees last month, jobless benefits piled up at a rate of about $7 million a day. It is not to knock BRS but rather to shed a bit more light on this situation that the following "Dear Sirs and Brothers" letter from BRS is reprinted:

"This is to advise you that you should apply for unemployment benefits during the strike period.

"The Railroad Retirement Board has informed us that special application forms will be furnished to all unemployment benefit claim offices, to be used when applying for unemployment benefits during the strike period. In applying for the unemployment benefits, you should commence the 14-day claim period on May 17 (first day of the strike) and end it on May 30.

"As you know, to qualify for unemployment benefits, you must have been unemployed for more than four days in a 14-day period. For employees who have two regular rest days per week (days not compensated), the rest days are considered as days of unemployment.

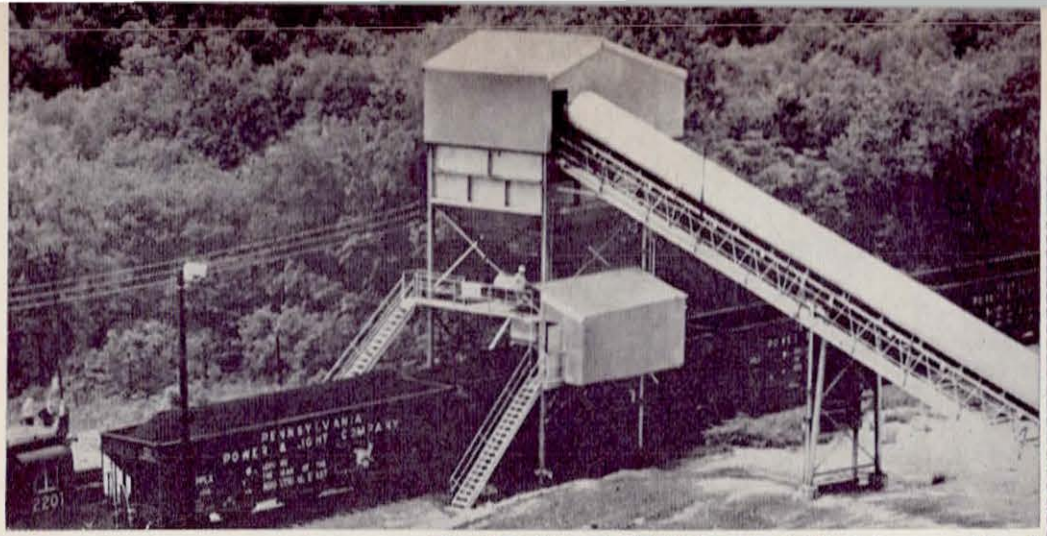
"As an example, employees with Saturday and Sunday rest days (days not compensated for by the employer), the actual days of unemployment would be May 17, 18, 22, 23, 29 and 30."

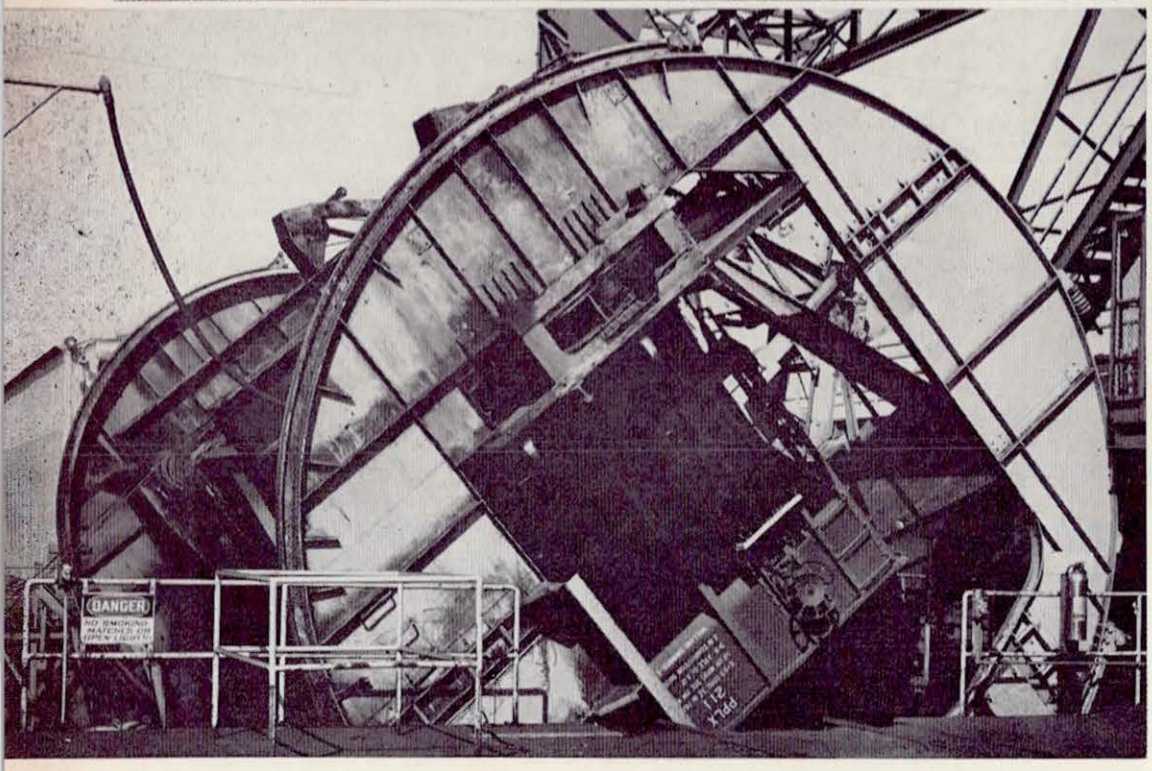
As the *Wall Street Journal* thoughtfully observed: "No employer should be forced to finance a strike against himself." But that's the way it is. It's the law.

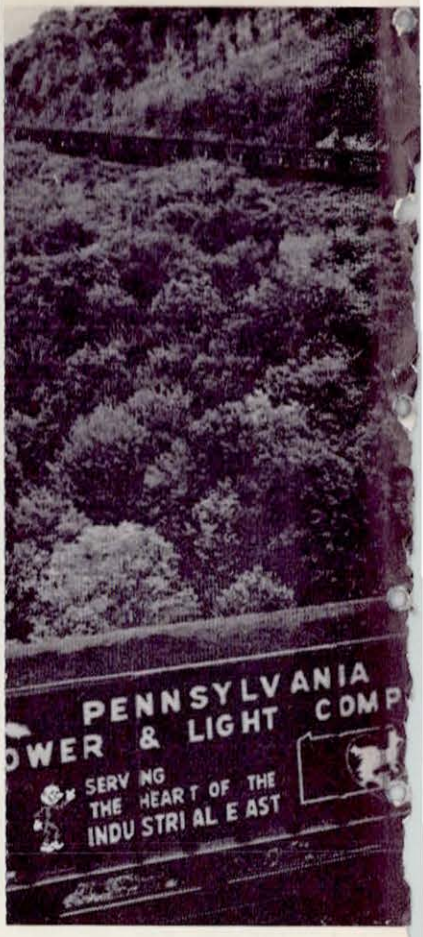
### . . . WHILE THE PRESS REFLECTS ON THE RAIL STRIKE "HABIT"

Somewhat bemusing, too, were the ways in which the national news magazines—*Time, Newsweek, U.S. News & World Report, Business Week*—approached the strike and related legislative problems. Only *USN&WR* held out much hope that Congress will finally get around to some permanent legislative solution. *Time* pointed to politicians' unwillingness "to take a firm stand on a messy labor/management controversy until after the 1972 election." *Business Week* called strike legislation "too controversial for those on Capitol Hill who have their sights set on the 1972 elections." *Newsweek* guessed that Congress "probably will not pass any bills this session." (*Newsweek* also offered the puzzling observation that both labor and management want to avoid compulsory arbitration. Both final-offer selection and forced arbitration are included in the current AAR/Air Transport Association legislative proposal for strike prevention.)

Unfortunately, it's hard to argue with the magazine-majority's assessment of the odds. Another crisis or two could conceivably create a "damn the torpedoes" atmosphere in Congress. But, with all the jockeying for political position that's already going on, this isn't really likely. President Nixon has been unable to prod the lawmakers into action; pleas from the railroads have gone unheeded. And, oddly enough, major shippers have suffered more-or-less in silence.






**MINE LOADING** facility (upper left) and generating station dumper (left) are connected by continuous movements of PP&L fleet trains. Lettering on first train (above) was not duplicated; subsequent cars carry merely reporting marks and numbers.

# PP&L brings in Fleet Train 5

## The Pennsylvania utility's pioneering operations have made a significant contribution to unit-train technology.

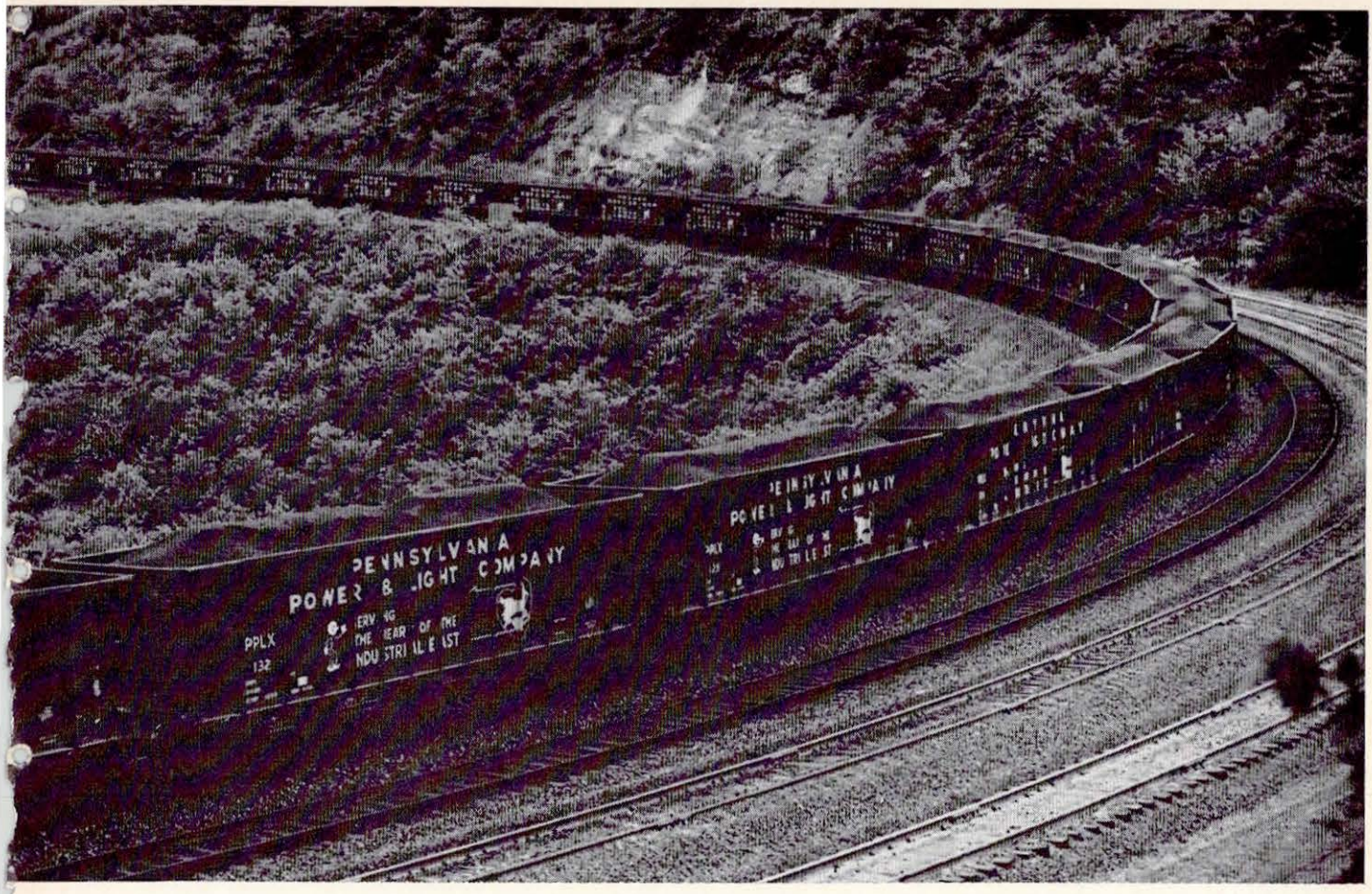
**By FRED HOUSER,** Mechanical Editor

For some electric utilities, ownership of their own coal trains is a relatively new development. Not so with Pennsylvania Power & Light, which is the real pioneer in this fuel-delivery concept. It was seven years ago the PP&L put its first 74-car train on the rails of the former Pennsylvania; just this week the 131 newest cars are scheduled to go into service on the Penn Central as Fleet Train 5. And it is probable that a year from now 131 more of the 100-ton hopper cars will have been acquired to make up Fleet Train 6.

Today there are nearly a half-million train miles represented on PP&L's carefully kept records—records which tell a virtual life history of each of the 551 coal cars this eastern Pennsylvania utility now owns. While the records keep tab on operating costs for more than $6 million in rolling stock, they are also useful in appraising components used on the cars and in selecting parts for each new car order. In addition, there are available data which can be valuable for the railroad industry.

Twenty years ago PP&L's power generation was based almost exclusively on by-product anthracite since its service area is in and adjacent to eastern Pennsylvania's hard-coal region. By 1950, with hard-coal mining declining at a rapid rate, it became evident that the low-cost fuel produced in the course of regular anthracite extraction would soon be unavailable. Switching to the regular production of the hard coal mines would have pushed up fuel costs for the utility. In addition, PP&L's power load was going up and would soon require new generating facilities.

● **Stage is set.** PP&L planned its new power stations to burn bituminous coal, converted existing plants, and looked about for an assured source of such coal. Initially West Virginia coal was used; but single-car freight rates, combined with the higher per-ton cost,




soon led to consideration of bituminous coal from central and western Pennsylvania. About that time mining machinery was perfected to work in the relatively thin coal seams which existed in those Pennsylvania fields.

A former PP&L vice president describes what happened next: "Company coal specialists, in their search for the most economical source of supply, extended their inquiries to more of the major bituminous coal producers in the Pennsylvania fields. Negotiations were also entered into with the Pennsylvania Railroad on routes, schedules and rates. The Pennsylvania was not only most helpful in developing transportation ideas that would lead to efficiencies and savings, but also worked with PP&L and Bethlehem Steel on designs for a unit train that would produce the best service and minimize maintenance.

"It was determined that considerable savings could be made if the entire output from a mine could be moved to one plant in trainload lots—and that further savings could be made if this was a unit train with the cars used only for this purpose and shuttled between the mines and the power plant as one unbroken unit. PP&L's engineering and plant operating people, meanwhile, were making parallel studies on how to step up fuel handling at the receiving end.

"All this would require an unusual combination of mining, loading, railroading and unloading skills. Coal would be pouring out of central Pennsylvania mines and into our plants five to six days per week, 50 weeks a year, in 1¼-mile-long trains. The unit train has become the key factor in establishing the low-cost rail transportation necessary to shift from anthracite to bituminous coal without suffering major increases in fuel costs."

● **2 million tons a year.** PP&L's first train moved into Brunner Island station south of Harrisburg on May 9, 1964. During the remainder of that year it delivered 220,000 tons of coal to that facility and to Martins Creek, northeast of Allentown. In September 1965, Train 2 was delivered and the two sets of equipment transported almost 650,000 tons during the year. Train 3 came in August 1966 and Train 4 in August 1968. For the past three years the four trains have been moving more than 2 million tons of coal annually—about 50% of PP&L's current consumption. Sufficient equipment has been acquired so that all four of the trains are now 105 cars long with a capacity of 10,000 tons each.

And there is more to come—both coal and cars. From 1971 onward, PP&L's bituminous consumption is scheduled to increase steadily and the proportion of this moved in its own "fleet trains" (as differentiated from railroad-owned "unit trains") is due to go up even more dramatically—from 51% this year to 98% in 1976.

PP&L will be doubling its generating capacity to about 6.5 million kilowatts during the next seven years. A major portion of this expansion will be represented by the new 1.5-million-kw coal-fired Montour station near Danville, Pa. Simultaneously, however, it has also been planned to convert Martins Creek to burn oil and to build a 2.2-million-kw nuclear plant near Berwick. Recently Martins Creek has been fueled with West Virginia coal delivered in railroad-owned trains, leaving PP&L's equipment to serve Brunner Island, Montour and Sunbury.

Montour station represents a new level of refinement in coal-train service and facilities. From Train 4 onward, all PP&L cars have been fitted with rotary couplers to simplify unloading. While Trains 1, 2 and 3 are also unloaded in rotary dumpers, they must be uncoupled for the process. Some study has been given to converting 131 more cars to rotary couplers but changes in draft sills, brake pipe, air hose and coupler arrangement would be necessary at one end of each. PP&L officers feel this may be too expensive.

● **High utilization.** Montour's trains

**FLEET TRAIN 5** includes this car, one of 131 with rotary couplers, which have just been completed at Bethlehem's Johnstown, Pa., plant.

will carry 13,000 tons and will include the 131-car set going into service this week. They originate from the new Greenwich mines near Barnesboro, Pa., and will run via Clearfield, Keating and Williamsport to Watsontown, thence up over a newly rehabilitated portion of the Berwick branch to Strawberry Ridge where the big power plant is located. Fleet Train 4 has already started to build Montour's coal stockpile and has been making the 396-mile round trip every 48 hours, including loading and unloading.

To unload such a train in 4½ hours, a positioner/dumper cycle of 90 seconds has been established, representing a capacity of 3,800 tons per hour. The four PC road locomotives spot the first car and then a hydraulic positioner, capable of moving and braking 170 loaded cars and their motive power, takes over. Each car is indexed into the dumper where its contents go to a crusher and into stockpiles or directly to the furnaces. As at other stations, an electric infrared thawing shed is installed ahead of the dumper to assure uninterrupted dumping year around.

Car shortages and coal shortages have altered some of the original PP&L train concepts. In 1970, car shortages became so severe that PC established rates for PP&L trains to operate from mines which did not have the high-capacity loading facilities such as exist at Tunnelton, Osceola Mills, Greenwich Mines 1 and 2, and Central City. The new rates allow a 24-hour loading interval rather than the original 4-hour allowance and brought the PP&L trains to some entirely new originating points during the past year.

Substantial tonnages are being moved into PP&L power stations in conventional 7,000-ton PC unit trains. However, W. T. Ralland, traffic manager, expects this situation to be turned around so that proportionally higher tonnages will move in PP&L equipment during coming years.

Take a typical recent week. Train 1 moved 10,000 tons of coal out of Tunnelton on Monday and was in Brunner Island (218 miles) on Tuesday. By Thursday it was leaving Osceola Mills with another 10,000 tons for the 154-mile run to Brunner Island, where it arrived on Friday. Train 2 also made two deliveries into Brunner Island during the week (Monday and Thursday), while Train 3 came in on Wednesday and Saturday, each time with 10,000 tons. Meanwhile, Train 4 was well along to making three round trips during the week, moving 10,000 tons each time from Greenwich to Strawberry Ridge. Such operations require close coordination between PP&L's Coal Bureau and Traffic Department, as well as with Penn Central.

● **Three-way partnership.** "It is really a three-way partnership," says Ralland as he acknowledges the important roles played by PC and by Bethlehem Steel, which has built all the cars. "From the beginning all the parties have worked closely together."

At one stage the railroad suggested the PP&L might acquire and own the motive power, as well as the cars, to earn an even lower freight rate. That proposal was never adopted. Detroit Edison subsequently did avail itself of such option (RA, June 8, 1970, p. 34).

PP&L did take the railroad's recommendation for the so-called "committee car," the AAR alternate-standard open-top hopper adapted for 100-ton capacity. The utility retained a consultant to assure satisfactory service with a minimum repair under the following conditions: 80,000 to 100,000 miles annually, unloading in rotary dumpers, life of 20 years. Then the design was turned over to Bethlehem Steel for production. Gus Holabeck, chief engineer for Bethlehem's carbuilding operation, has since had an almost parental interest in analyzing and overcoming any mechanical problems as they developed.

As the 1964 train went into service, the head of Bethlehem's railroad product sales observed that the train "is providing an opportunity for the first time to have an unique materials testing laboratory on wheels. Especially ideal conditions are set up to experiment with various grades of steels and coated steels in these hopper cars. In the past it has been impossible to obtain truly comparative tests on construction materials in hopper cars under actual service conditions since they are subjected to different ladings and different service conditions which affect corrosion."

While 64 of the original cars and all those subsequently built are of Bethlehem's Mayari-R corrosion-resistant high-tensile steel, ten of the 1964 cars were built as follows:

—Two cars with copper-bearing steel plates;

—Two cars having copper-bearing steel plates with galvanized coating;

—Two cars having copper-bearing plates with a spray aluminized coating covered with a vinyl sealer;

—Two cars having copper-bearing plates covered with a spray aluminized coating with a silicon sealer;

—Two cars having V50 copper-bearing steel plates.

The corrosion and abrasion resistance of the various steels and coatings was checked carefully by Bethlehem's research department in 1968 and a similar check is anticipated again in 1974. Annually some measurements are made on sheet thickness, although virtually no wear has been detected, and PP&L has no concern about the bodies lasting at least 20 years in its rugged service.

● **A series of "firsts."** There were a number of innovations involved with that original PP&L train, including:

—First train with ABD air brake control valves;

—First train with 38-inch-diameter wheels to reduce rail damage from high-capacity cars;

—First cars to be put into service without paint or protective coating on the exteriors, relying instead on the tightly bonded oxide coating that forms on Mayari R and gives them their distinctive dark brown color.

Just last month representatives of the AAR Mechanical Division's Committee on Brakes and Brake Equipment gathered at Altoona for an annual inspection of 20 sets of the ABD valves after seven years' service. Largely on the basis of experience with the PP&L train, the mandatory servicing interval for the ABD components has been extended from four to six years. A further extension could be in the cards.

The AAR has been much interested in PP&L's wheel life since mileage is carefully kept. So also have others, including Bethlehem Steel, which has installed wheels with an experimental contour under ten of the cars it has just delivered.

Back in the days when AAR was appraising Automatic Car Identification and had all the competitive scanners set up at Spruce Creek, Pa., on what was then the PRR main line, each car in PP&L's trains was then wearing all the

# Our new rail-mounted SERVOSAFE® Hot Box Detective™ prevents axle burn-offs and derailments.

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Recent studies have revealed that such factors as heavier car loadings, faster train speeds and greater accelerations have combined to increase the incidence of overheated journal boxes. This has prompted many railroads to review their spacing of hot box detectors. Up to now, the average spacing has been 25 to 30 miles apart along line-of-road. Under today's conditions, however, a hot box can develop in less than 25 miles and cause a derailment *between* detectors.

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Will it cost you more to get this additional SERVOSAFE protection? Not really. Here are some reasons why not:

Our new Model 8808 SERVOSAFE system features patented rail-mounted scanners and solid state electronic data processing for the fastest, most precise detection of hot boxes. It allows remedial action to be taken *before* a failure occurs, and helps cut down the high costs of major salvage or replacement. The cost of installation and maintenance is appreciably reduced by eliminating the need for concrete foundations, special ties and expensive roadbed preparation. The rail-mounted scanner can be easily removed for maintenance or relocation. Finally, compare the cost of a SERVOSAFE with the $200,000 involved in just one derailment that could be prevented.

That's why most prudent, progressive railroad managements agree when we say, "More SERVOSAFE protection isn't costly—*lack of it is!*"

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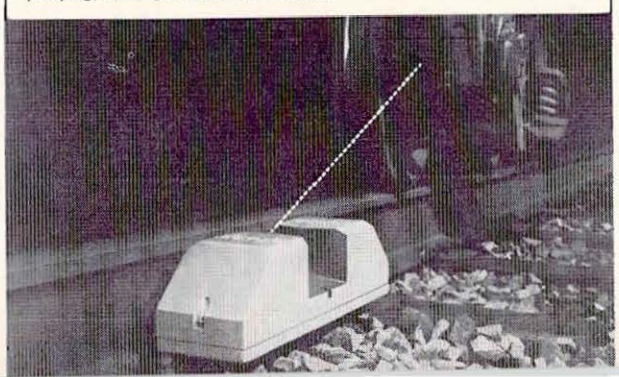

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different identification systems, since they passed the point frequently on their regular runs.

● **Overcoming rock-and-roll.** Train 1 was an early victim of the rock-and-roll phenomenon which later was to plague many other high-capacity cars. PP&L has since fixed on mechanical and hydraulic snubbing devices to control the problem. As with other parts subject to wear, it seeks units which are quickly replaced and readily repaired.

Center plates have also come in for attention. Starting with Train 4, all PP&L cars have 16-inch-diameter center plates rather than the 14-inch size used on the first 315 cars. The greater area is expected to reduce wear and also assist in overcoming car rocking. Composition brake shoe life which today is running 60,000 to 70,000 miles is far better than in the early days and manufacturers are continuing to apply new types in an attempt to extend this even further.

Since both PP&L and PC want the trains to operate without cutting out cars for repairs, much attention is given to maintenance as well as to the choice of components for minimizing repairs and servicing. PP&L has an arrangement with Berwind Railway Service for the prompt repair of any cars which might be heavily damaged.

When the trains are at Brunner Island, PP&L performs as much of its own running repairs as possible. Among the components which may be replaced after the cars are unloaded are brake shoes and keys, snubbers, roller-bearing adapters, truck springs, pedestal frame keys, knuckles, coupler carriers and side bearing rollers. With an air-operated greasing arrangement, PP&L men can lubricate all the roller bearings on 105 cars in less than seven hours, although this is required only at three-year intervals. Two trains will be lubricated each year.

The goal always is to keep availability as high as possible. Sometimes the use of hopper cars in conjunction with an elaborate dumper system is questioned. Here too, PP&L has its answer. If a dumper malfunctions at any power station, the train can be unloaded (although somewhat more slowly) and be on its way back to the mines, rather than being held for emptying. There are other advantages. Hopper cars are said to give a better chance for wet coal to drain en route, alleviating some freezing problems in cold weather.

Also given as a reason for acquiring hopper cars is their greater potential resale value. This might be a bit theoretical, however, since the success of the nation's original utility-owned trains does not give much indication that the cars would be sold before they are worn out—and this will not be very soon. ■

# CP Rail takes a look at

Canadian Pacific has plans for using alternating-current electrification as an adjunct to its present types of motive power. The road is not disenchanted with diesel freight locomotives, but has decided that it should not brush aside electrification as a possibility for the future (RA, Mar. 8, p. 42).

To know more about the capabilities of electric traction, CP Rail recently had representatives of its research and mechanical departments conduct tests with late-model European locomotives in Norway and Switzerland.

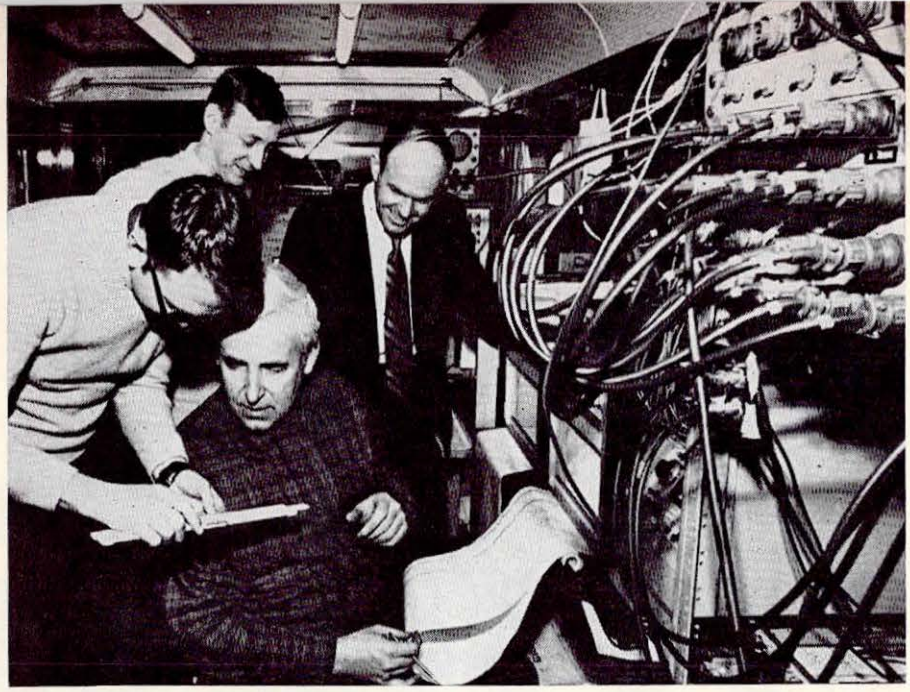
● **Ready for comparison.** The results are pretty well summarized now, available in computer tapes so that precise comparisons can be made with present-day operations in the Canadian Rockies where CP feels that it should know about new methods for handling a steadily growing traffic.

S. M. Gossage, recently retired senior executive officer of CP Rail, told the Canadian Transport Commission a few months ago that electrification of the main line from Calgary, Alta., to Vancouver, B.C., and from Golden, B.C., to Sparwood, B.C., "would offer operating advantages that would enable operation up the controlling grades at higher speed and also would enable a faster movement of trains from a stop in siding and at other points, thereby tending to increase capacity." There is a five-fold increase in bulk-materials traffic seen for this territory in the next ten years.

Glenn Fisher, director of special projects, summarizes CP's position: "We are studying substitution of electric traction to overcome some of the disadvantages of our lines—the grades and curves. Our reason is not disenchantment with the diesel locomotive because that motive power has certainly proved itself. For the very heavy traffic densities we expect in a few years, electric traction is a very interesting alternative. On lines with steep grades, it should be possible to have train speeds equal to track speed limits through the whole territory—in effect producing zero grades."

With an electric locomotive, Fisher continues, virtually any desired running speed is possible without six, eight or thirteen units to meet tractive-effort requirements and maintain speeds on hills. He adds, however, that "this is a total problem, not just a case of uncoupling the diesel locomotives and putting on the electrics, then asking what will happen."

● **Many factors.** He cites the factors—capital cost of locomotives, the number required, the maintenance costs which are very sensitive to escalation in wages which is bound to occur, and fuel costs. "We are looking to the trade-



**SWEDISH DYNAMOMETER CAR** and crew accompanied by D. F. Haney, CP's assistant chief of motive power and rolling stock (seated), and Glenn Fisher, director of special projects (right). Tests were run in Norway.

**SWISS ELECTRIC** hauled dynamometer car, gravel cars and another locomotive in dynamic braking to simulate heavy-tonnage train.

# electrification

offs associated with fuel costs—what we currently pay for diesel fuel and what we may pay for diesel fuel, compared with present and projected costs of electric power," says Fisher. He adds that Alberta and British Columbia utilities have conferred with CP Rail on electric supply. The region is one of the greatest potential hydroelectric generating areas in Canada.

CP is considering 50,000-volt a-c. In all but five of the 47 tunnels between Calgary and Vancouver it would be necessary to increase the distance between the rails and the tunnel roof to provide electrical "clearance" for the catenary. While lower voltage would alleviate this problem to some extent, no lower voltage is used in planning. Even the five-mile Connaught tunnel would require work.

D. F. Haney, assistant chief of motive power and rolling stock, continues: "You have to look at more than the locomotives—at the complete package. You cannot ignore the fixed plant and the simplification that has been achieved in catenary construction in signaling and in other factors."

● **European prototypes.** CP initially looked at the heavy-traffic ore line north of the Arctic circle between Kiruna, Sweden and Narvik, Norway, when it began to examine European technology. Then attention was focused on a 52-mile segment of the Oslo-Bergen line in Norway with grades and climate closely approximating conditions in British Columbia.

Here CP arranged for a Swedish four-axle thyristor locomotive to be operated on a series of Norwegian trains, trailing the dynamometer car of the Swedish State Railways. "We know that the exact type of locomotive used in the test would not be suitable for CPR operations," explained Fisher. "The purpose of the test was to prove the performance of the existing locomotive so it could be translated to a larger, heavier unit, allowing us to determine what kind of perfomance is possible on CP."

Next tests were made of a Swiss locomotive on the Berne-Lotschberg-Simplon line. L. M. Tufts, supervising research engineer, observes that "Swiss freight and passenger trains run at exactly the same speed with the same locomotives. There is an impression in North America that these are 'toy' trains. But take an 80-ton, four-axle locomotive pulling 700 tons up a 2.7% grade at 50 mph—what toy train is this? It is not appreciated that just because many of the freight cars are small, the trains may not be."

Swiss locomotives have reached a high state of refinement and reliability—prompted by the need for steady improvement as traffic density increased. CP has been impressed by European truck developments and adds that adhesion is then maximized by subtle features of the electrical control system. High adhesion is achieved without sand, The highly refined balancing of weight between axles and between trucks, is, in part, responsible.

"We found several features on European locomotives that are being looked at closely in the motive power department," adds Haney. "New diesel units we buy well may incorporate some of them."

Can CP get by without electrifying? "With lengthened sidings and double-tracking of certain segments, we could exist for many years,' says Fisher. "But with the markets we are anticipating, it gets rather indefinite between 1980 and 1985." Ian Sinclair, CP president, recently told stockholders that, in addition to electrification, the railroad was continuing to study the elimination of the steepest of mountain grades. Even slurry pipelines have been studied for bulk materials transportation.

Fisher explains that there is no magic level where electrification becomes practical—it depends on the route and traffic. "But in the territory at which we have been looking," he adds, "the traffic level is getting in the range of practicality."

● **What not to do.** Initially, CP looked at the conversion of existing locomotives—taking out the diesel engine and substituting transformer and rectifiers. It probably would not be that way, says Fisher. "It could well produce a wonderfully obsolete, uneconomical electric locomotive."

Operations would be different—but they have been altered drastically in the past five years. CTC, longer sidings and the unit coal trains have already changed the whole operating picture on CP's Mountain lines. The technology would certainly be different. Electrification would be accompanied by changes in signal systems and by a revamping of communications facilities—a step which might be taken in any case, according to Fisher.

Norwegians replaced the Bergen-Oslo pole line with buried cable when the route was electrified in 1964; CP might do the same or use microwave.

● **Interface problems.** There would be the "interface" problems while the electrification was going in—phasing out operations on routes as the catenary goes up and establishing the junctions between the electrified and non-electrified routes. These are problems which are also getting study.

"What we want to develop," says Fisher, "is sufficient background so that when the time comes, the decision for something totally different can be made with relatively low risk." ■

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# MOVING PEOPLE

**New York earmarks $1.35 billion for transit in new bond issue**

The New York Legislature has agreed to submit a $2.5-billion transportation bond issue to voters in a referendum next November. As originally proposed by Governor Rockefeller, the funds would have been split 50-50 between highway and mass transportation facilities. But the Legislature voted to set up a special $200-million fund for mass transit upstate, with the remainder to be divided evenly between highways and mass transport. Stanley Steingut, Democratic minority leader, said New York had taken a "historic first step" toward giving priority to mass transit. The bond issue would renew a similar measure passed four years ago.

**Illinois legislators still pondering subsidy**

Subsidy for the Chicago Transit Authority is one of the hot items still before the Illinois Legislature—but legislative action has to be regarded as less-than-probable in the time remaining before the legislators knock off for the summer June 30. Meanwhile, the Chicago Transit Board is continuing to make its case for subsidy—calling a further fare increase "unrealistic" and passage of the subsidy bill "essential." CTA's deficit for 1971 is now estimated at $28,791,400: "This is the minimum amount needed if the CTA is to survive. In addition . . . equipment, tracks, structures and so forth are currently being worn out at a rate approaching $60 million per year. The inability to replace equipment over the past few years and the highly inflated cost of new equipment have increased capital demands far beyond the $15 million provided in the 1971 budget."

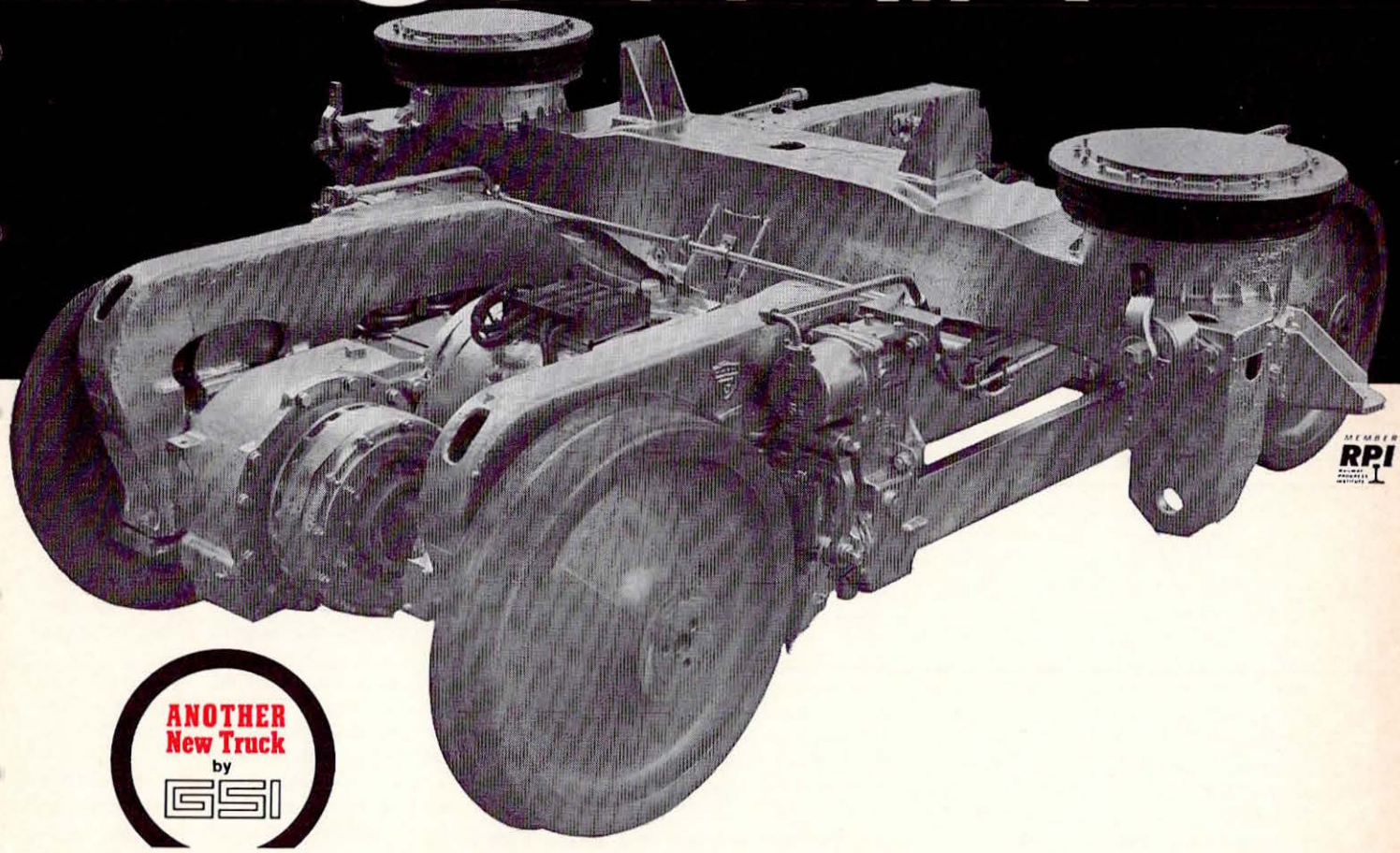
**Pittsburgh studies expansion and extension of B&O commuter service**

The Port Authority of Allegheny County has initiated talks involving the possible expansion and extension of Baltimore & Ohio's Pittsburgh rail commuter service following a favorable report by a consulting firm. The proposed $944,000 first phase, for which Federal aid would be sought, would involve purchase of additional equipment along with improvements in signaling, stations and parking areas. Train service would be coordinated with the PA's bus operations. The Authority would subsidize the rail operation. The consultants also advised the PA to keep an eye on other existing rail rights-of-way for possible future use.

**DOT grants:**

To the City of Chicago, $90,000 to help finance a $135,000 technical study to determine mass transit needs to and from O'Hare International Airport . . . To Philadelphia's Department of Public Property, $342,000 for a detailed feasibility study of a high-speed rail link between mid-city and International Airport . . . To Southeastern Pennsylvania Transportation Authority, $1 million to develop a master plan for transit improvements . . . To Delaware Valley Regional Planning Commission, $200,000 to support transit planning programming and coordination activities . . . To the Public Utilities Commission of San Francisco, $19,287,617 to help the San Francisco Municipal Railway purchase new equipment, including 78 rail cars . . . To the Port Authority Trans-Hudson Corp., $15,933,334 for completion of the Journal Square Transportation Center in Jersey City . . . To the Massachusetts Bay Transportation Authority, grants totaling $33.6 million for various projects, including $18.8 million for the South Bay Maintenance Center for rapid transit trains, and $3.7 million toward the increased cost of building the 6.1-mile South Shore extension.

# SHE'S RIDING ON AIR



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ANOTHER New Truck by GSI

**GSI General-70 High Speed Trucks provide exceptional riding comfort and safety at 100 mph speeds for New Jersey's new commuter fleet. They feature a double spring system with high-and-wide location of bolster air springs to assure maximum stability at high speeds and under all operating conditions. And, of course, cast steel framing assures safe, trouble-free service.**

**This new-design truck is another of the General-70 family which includes trucks for the Metroliner and other pace-setting equipment.**

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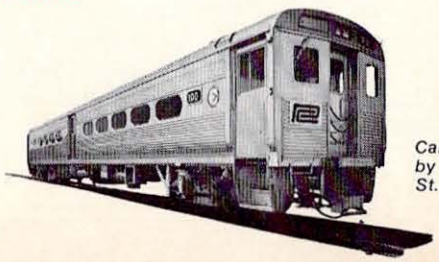

*Cars built by GSI – St. Louis Car*

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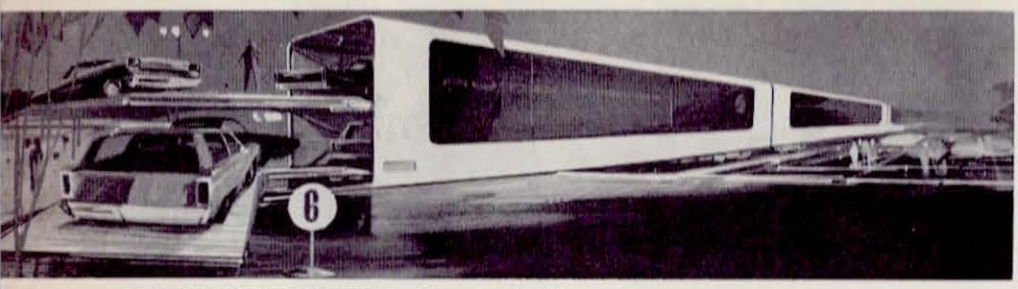


**BI-LEVEL TRANSPORTERS** will be loaded through end doors.

# Auto-Train sets Oct. 1 inaugural

Auto-Train Corp. of Washington, D.C., will begin carrying automobiles and their passengers non-stop by rail between Alexandria, Va., and Sanford, Fla., on Oct. 1.

Eugene K. Garfield, the corporation's 35-year-old president, believes there are solid reasons for being enthusiastic about the venture. In the two years since its incorporation, Auto-Train has spent $385,000, designed a train system, executed operating agreements with two railroads, raised $7 million, hired a staff, and planned equipment acquisition and design.

The startup effort so far:

— ICC approved Auto-Train's entry into service and granted its application to issue promissory notes of $2 million and 1,219,444 shares of common stock. In early June, Auto-Train will offer 500,000 shares of common to the public, through its underwriter, Executive Securities Corp. of Miami, New York, and Los Angeles. Expected to sell for about $10 a share, the stock, after underwriting fees, will bring Auto-Train $4.5 million.

— Operating agreements were entered into with Seaboard Coast Line and Richmond, Fredericksburg & Potomac. In return for crews and trackage rights, SCL and RF&P will receive $1.20 for every $1 of their out-of-pocket costs and a small percentage of profits for the next 15 years.

— Contracts for purchase of $4 million in equipment await completion of the financing. They will provide Auto-Train with five brand new locomotives from General Electric, ten full-length dome cars, and 28 auto carriers. All cars will be renovated and painted with Auto-Train's colors—brown and orange—and an insignia.

At Auto-Train's offices in Washington, the prospect of actual operation excites Garfield and his staff, which includes, as operations vice president, Kenneth Howes, former SCL senior vice president for passenger traffic—"the brightest, most progressive railroad man I've ever met," says Garfield.

"We're going to start a unique service in this country," declares Garfield. "It will be the highest possible standard of service. The American passenger deserves it. The passenger will be our most precious cargo."

The concept of auto-carrying rail passenger service is not new. Widely used in Europe, it was anticipated here by the Federal Railroad Administration, which spent $2.8 million in feasibility studies. FRA wanted to start a Federal demonstration project with SCL, but Congress said no, leave it to private enterprise.

## FRA plan was different

As it has now developed, the Auto-Train concept differs from the FRA approach in that passengers and their autos, while traveling on the same train, will occupy different cars. The FRA concept originally contemplated that passengers would remain in their own autos for most of the trip.

That was in the late Sixties. At the time, Ford Motor Co. was entranced by the idea. So was a young lawyer from Florida serving as an assistant for gubernatorial liaison to a fellow Floridian, the then DOT Secretary Alan Boyd.

When the Nixon Administration took office, Garfield left his DOT post and incorporated Auto-Train.

"It was a group of us, friends and such, who raised the money," recalls Garfield. "I'm not fronting for anyone."

Auto-Train was materially helped by the Congressional kiss to the private sector. The Amtrak Act specifically forbids Amtrak from engaging in auto-ferry service.

Garfield hopes for eventual expansion to a West Coast terminal, but right now and for some time the Florida service has priority.

The two terminals—Alexandria, Va., and Sanford, Fla.—are strategically located. Across the river from the nation's capital, Alexandria is on Interstate 95, the major Northwest Corridor highway route. Sanford is centrally located to Orlando, Tampa, and Daytona Beach. And it is 37 miles north of Disneyland East, which also opens Oct. 1.

Even aside from good highway connections, there would seem to be a good market. A Florida State Department of Commerce study reported that in 1969 about 7 million autos carrying 22 million visitors entered the state. Garfield points out that French National Railroads began a similar service in 1958 with one train and now has 200, some booked a year in advance.

Auto-Train will work this way. Each evening a train will leave the Alexandria and Sanford terminals. Each train's consist will be two locomotives, four passenger cars seating 400, and 13 auto carriers with capacity for 104 vehicles. As autos are parked in the enclosed auto carriers through end-doors ("They're not rack cars," emphasizes Garfield), passengers will repair to seats for cocktails and hors d'oeuvres. Later, they will be treated to a free cold buffet. Next morning, a complimentary breakfast. And after the 870-mile, 14-hour journey, they will arrive at the terminal, ready to resume their trip by auto. Only drinks will add to the initial ticket price.

The cost will be $180 per vehicle one-way, regardless of its size and including its full passenger seating capacity.

"We charge for the auto, not the passenger. This is a key factor, and it is the same principle as a turnpike, bridge, or tunnel toll. Whatever the number of passengers, costs average out."

Eventually, Garfield hopes to add sleepers and a "bistro" car, with vocalist, piano players, and bar; in short, a rail "night club."

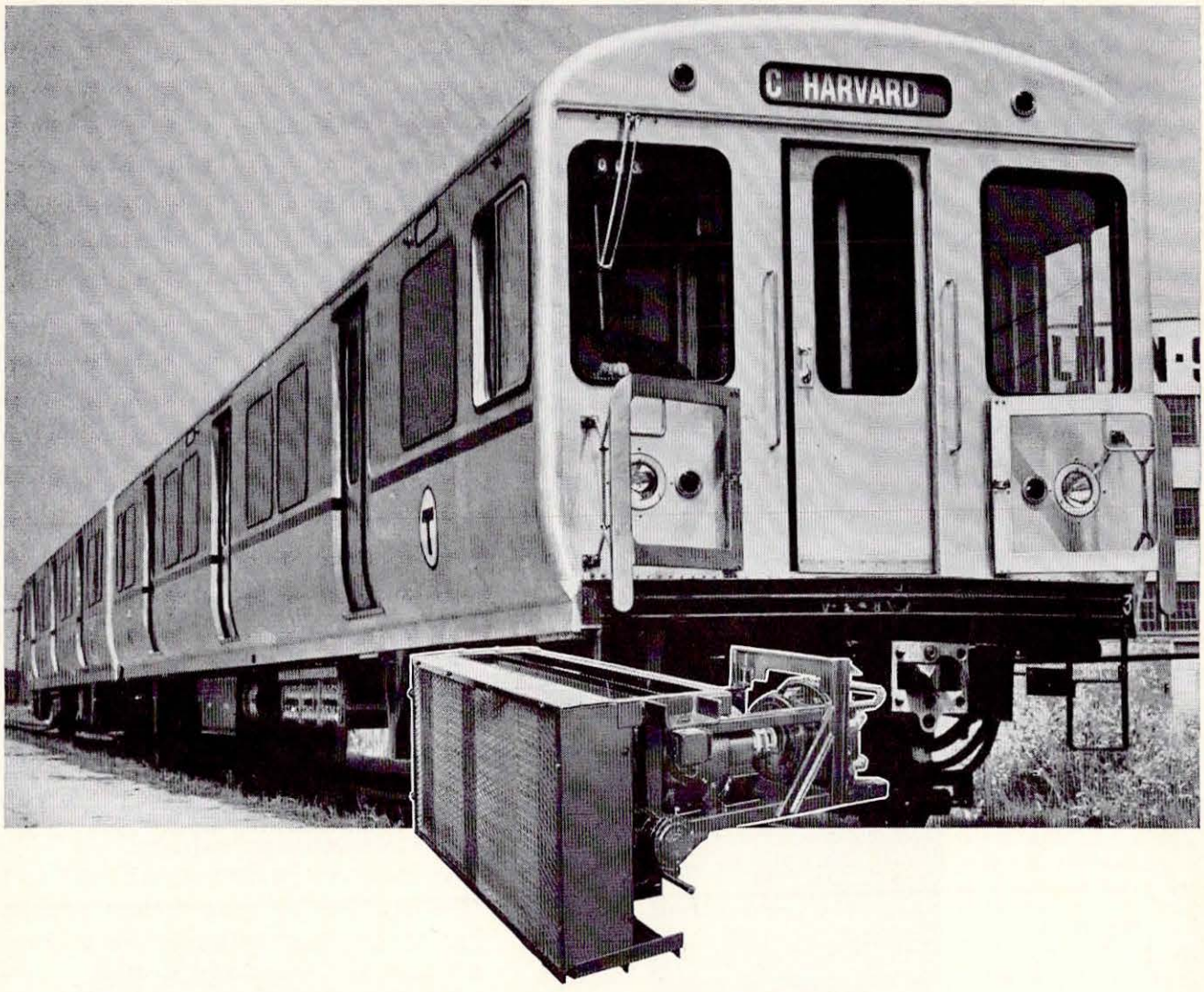
The $180 fare compares favorably with existing rail, highway, and air fares (Eastern Airlines charges $54 one-way coach fare from Washington to Jacksonville).

"Driving costs are slightly less," says Garfield. "But think of the fatigue factor on the driver, the wear and tear, the possibility of breakdown, insurance, congestion on highways, and safety."

Garfield himself is clearly sold on the idea. And he himself has acquired the bug so familiar to railroaders everywhere. "You know, I have a real love for trains," he affirms.

More than anything, he is banking on that sentiment existing in tourist hearts, tourists who after Oct. 1 can enjoy the best of two worlds: plush rail travel and personal autos. ■

# "Safety" air conditioning: the system of the 70's




All 76 of the new 70-mile-per-hour MBTA cars have a "Safety" 12-ton component type air conditioning system. It consists of two 6-ton evaporator and blower assemblies, a combination air cooled condenser-compressor unit, and a motor control panel. The system is arranged for operation at nominal 600 volt DC power supply and 32 volt DC control voltages. "Safety" Control Panels are compact, simplified. They start the compressor motor and they keep it running efficiently . . . and dependably!

If you want data on the air conditioning system of the '70's, write us today.

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# Here's how I'd run

## The Trainman

I always hear them talking about higher costs...for power. Replacement parts. Paint jobs. Labor...what have you.

I don't know much about that end of it. But I do say why in the name of common sense don't they *do* something about it? Like changing over to those new lighter-weight stainless steel cars.

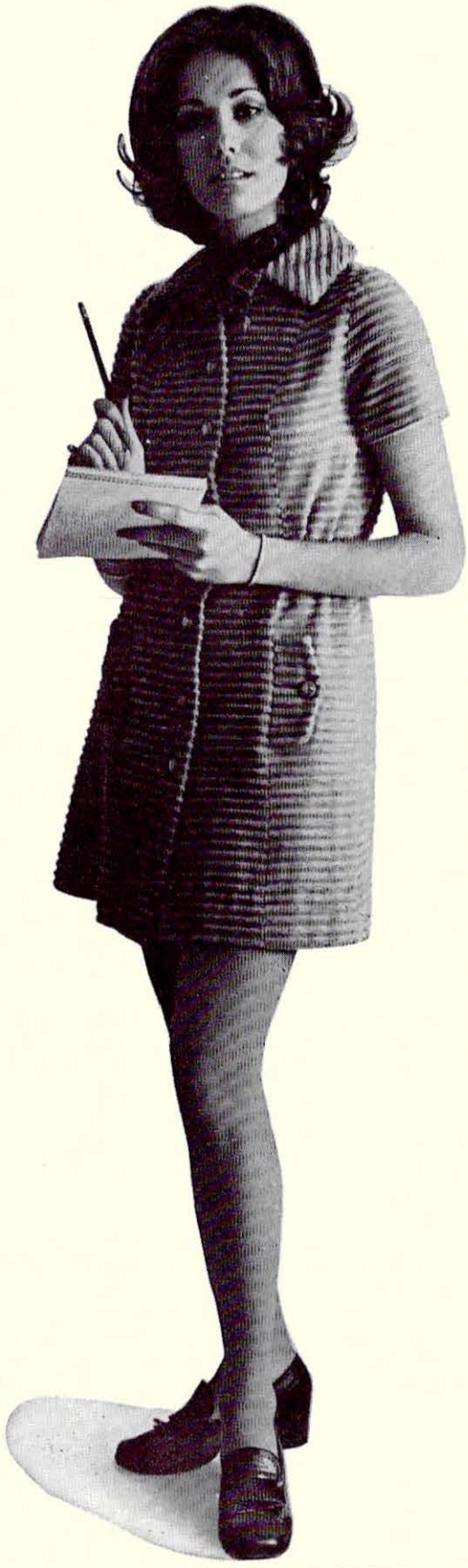
I read where the Long Island Rail Road switched to nickel stainless steel cars. And figured they'd save $2.7 million on *power* over the life of their cars—because they're lighter.

And my buddy who works for MTA said they had 600 new stainless steel subway cars. And since they expect the cars to last 35 years, they figure they'll save $5.6 million on power. Plus an additional $800 on each car on maintenance and paint.

I tell you if I were running this railroad...

...hm-m-m, maybe I *should* be running this railroad.

# this railroad...



## The Commuting Secretary

I'd throw away all the dirty old cars. And get pretty new ones. Like those stainless steel cars on the Philadelphia-Lindenwold Line.

I use that train five days a week and let me tell you something, it's terrific.

I live in Lindenwold and work in Philadelphia. Driving in used to be a 45-minute bore. A real headache.

Now the same trip takes only *22 minutes* by train. And I should add it's a real pleasure. Thousands of other commuters apparently feel the same way I do and have started taking the train every day instead of driving in.

Those beautiful stainless steel trains are so clean and comfortable. And besides, they're automated! I wonder when the rest of the country will catch up with Philadelphia.

...If only *I* ran this railroad.

**INTERNATIONAL NICKEL**

For a copy of our brochure—"Nickel Stainless Steel—The Modern Material for Modern Transit"—write to Section RA671, The International Nickel Company, Inc., One New York Plaza, New York, N. Y. 10004. In Canada, The International Nickel Company of Canada, Ltd., P.O. Box 44, Toronto-Dominion Centre, Toronto 111, Ontario.

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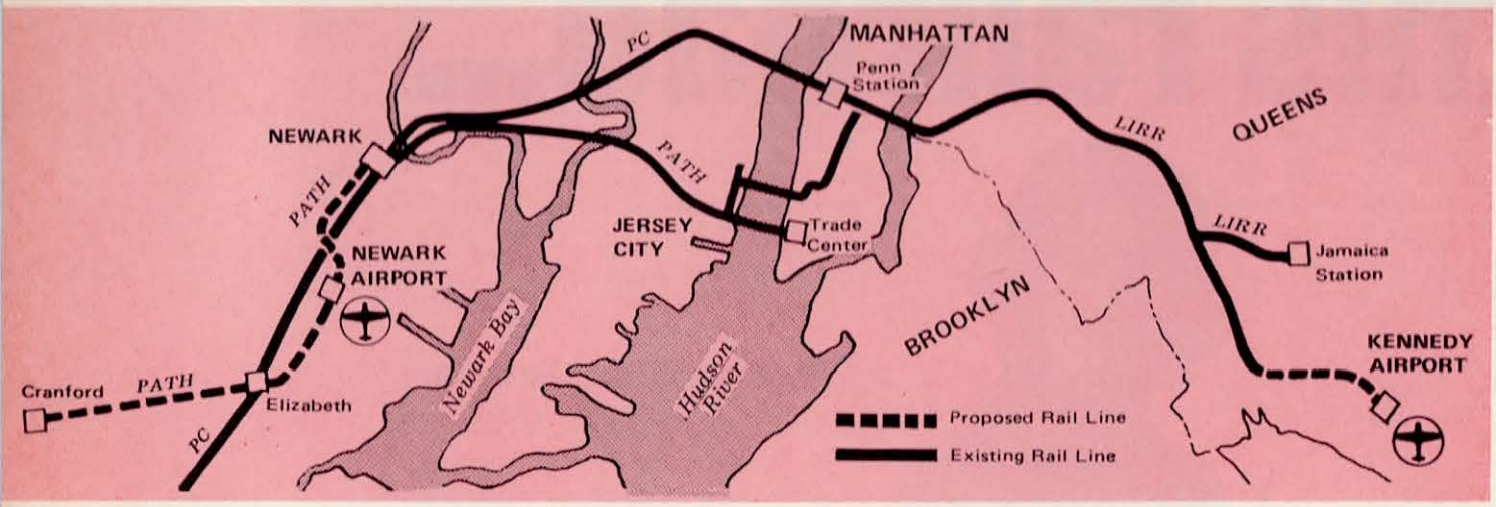



**NEW YORK MAPS TWO AIRPORT LINES**

High-speed rail links to John F. Kennedy and Newark airports will be built by Port of New York Authority at total cost of around $400 million. Line to Kennedy will, in effect, be an extension of the Long Island Railroad. Line to Newark will connect with PATH system and will be extended to Elizabeth and Union County.

# Jetports spawn new rail lines

## Many of the world's major cities are looking to rail transit to solve airport access problems.

The day is already here when a single airplane—the Boeing 747, or Lockheed's new "air bus"—can ferry 400 passengers between any two given airports with speed and ease. But getting the mob to or from the airport in the first place is not so easy; it is almost never speedy.

A dozen highway buses can do it —or a fleet of 200 private autos and taxis, all jammed onto already congested highways.

Or a single four-car train, operating on its own right-of-way and bothering nobody, can do the job.

The arithmetic is persuasive—so persuasive that experts are predicting that the next great boom in railroad construction will be spawned by jetports. New York is ready to move ahead with the construction of rail links to Kennedy and Newark airports at a total cost of around $400 million. A number of other cities in the U.S. and Europe are in the advanced or early planning stages for rail or rail-oriented airport links: Chicago, Los Angeles, San Francisco, Philadelphia, London, Paris, Rome, Montreal, Toronto, Amsterdam, Milan, Zurich, Washington.

The trend of new aircraft toward giantism is just one reason for the growing interest of airline and government officials in a more efficient and cheaper means of airport access than rubber-on-concrete. In a report prepared for the recent congress of the International Transport Union (UITP) in Rome, Dr. Wiliam J. Ronan, chairman of New York's Metropolitan Transportation Authority, listed other factors favoring steel-on-steel:

—Airports now tend to be built further from city centers than was previously the case.

—An increasing number of airport employees have to get to and from their jobs. New York's Kennedy airport at latest count had 23,000 employees; San Francisco International, 24,000; London's Heathrow, 40,600.

—In addition to air travelers and employees, airports are attracting a growing number of daily visitors: Kennedy, 23,000; Boston's Logan, 15,000.

—Air freight and mail operations are growing. (Mail will eventually be carried on the trains that will serve Kennedy.)

Some attention has been given to tracked air-cushion vehicles for airport access, but, as Dr. Ronan noted, "TACV still has to be proven a practical success."

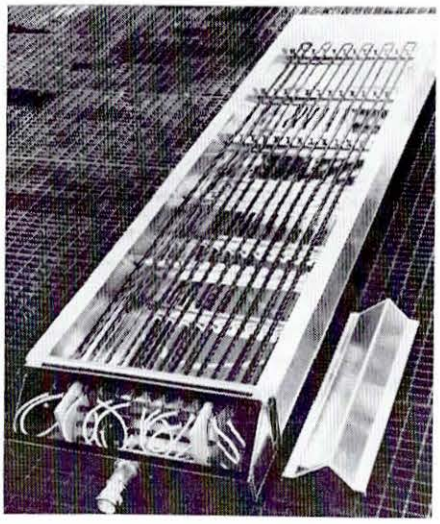
On the other hand, "Rail access completely bypasses road congestion and in fact helps reduce road congestion by taking off the highway many of the vehicles now traveling to and from airports. A highly developed technology for high speed rail service is available and in use. Rail service is safe, fast, reliable and economical. The railroad car, whether Metro or other, can provide a high degree of comfort and ample space for luggage."

● **The Cleveland story.** The points made by Dr. Ronan at Rome constitute more than theory. As many as 4,000 people a day have used Cleveland's airport line, confounding "experts" who contended that air-minded travelers would never, in great numbers, use public transit to get to planeside. The trip by rail takes 20 minutes—as compared with the 40 minutes which the Official Airline Guide recommends for auto travelers.

Six other airports have some kind of mass-transit access. In Boston, there is an "Airport" station on a subway line of the Massachusetts Bay Transportation Authority about one mile from the airport. A bus runs from this station into the airport. In Europe, Brussels has a system which is closest to that of Cleveland. Belgian National Railways (SNCB) trains run on main line tracks from a station under the main Sabena Airlines office in the city to a short spur terminating at an underground station within the airport terminal building. Berlin's Metro has a station about 600 feet from the airport. In Vienna, there is a single track, non-electrified rail line with infrequent service between the downtown rail

(*Continued on page 45*)

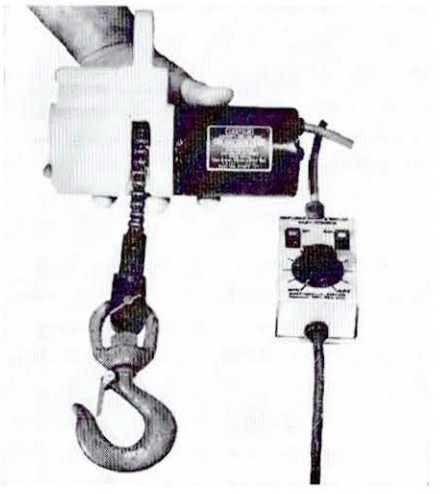
# New Products Report



**Car-thawing heater** (RA-1)

An electric rail car thawing heater has been developed that is applicable for both bottom and side heaters, which heretofore have been separate entities. Special quick-change features and modular, lightweight construction are said to allow removal and replacement of the heating units and to greatly reduce maintenance time and effort.

Utilizing up to 66 kw per unit, the heaters are used in multiples to get the best heat output required. They are designed for use in all existing car-thawing installations. *Spectrum Infrared, Inc.*



**Nine-pound hoist** (RA-2)

A small lightweight infinite variable speed hoist has been introduced for materials too heavy to handle by hand. It weighs 9 lb and will lift 500 lb with a single chain and 1,000 lb with a double chain. The low-cost hoist is, because of its size, quick, easy and inexpensive to install. It can be equipped with variable raising and lowering speeds. Overload fuse protection prevents excessive and dangerous overloading. Power service is 110 volts, 1 phase, 60 cycles, permitting the operator to plug in his power and start moving materials immediately. The hoist, like the manufacturer's other products, is guaranteed for one year against defective materials and workmanship. *Uni-light Hoist and Reel, Inc.*

**Battery charger** (RA-3)

Designed for the HT 220 series Handie-Talkie portable two-way radios, new single and multiple-unit chargers are completely automatic and eliminate the danger of overcharging. Once a battery is dropped into the charger, a red light comes on indicating the battery is charging. When the battery is fully charged—in one hour or less—a green light comes on indicating the battery is ready for use.

The multiple unit version will accommodate up to 12 batteries and is available in desk or wall-mount configurations. *Motorola Communications & Electronics Inc.*

**Treated timbers** (RA-4)

Fire-retardant, decay-resistant timbers for railroad use have been developed, using a non-leaching treating solution.

Engineering representatives of 17 of the nation's largest railroads recently witnessed fire performance tests on cribs of treated oak, pine and fir timbers

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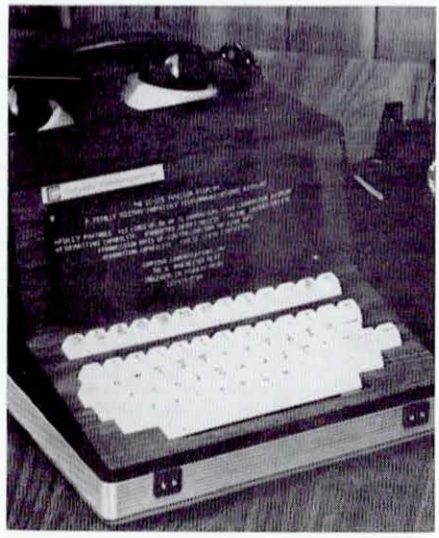
at Koppers Research Center, Monroeville, Pa. Less than 30 seconds after a feed fire of fuel oil beneath the cribs had burned out, the burning action on the treated timbers ceased, with no evidence of afterglow.

The treatment used was the same as that employed by the company to gain Underwriters' Laboratories, Inc., approval for its Non-Com Exterior fire-retardant lumber, plywood, cedar shakes and shingles for building construction.

In addition, the treated timbers offer additional benefits of weight and cleanliness. The treated timbers are recommended for use as bridge ties, caps, stringers and other bridge members not in direct contact with the ground. Based on accelerated stake tests for decay, the service life of such timbers is estimated as long as 30 years in non-ground contact.

The producer states that timbers pressure-impregnated with these chemicals are 25 to 40% lighter than comparable timbers treated with conventional preservatives; the percentage varies with the wood species used. Also, the fire-retardant timbers retain their natural appearance and non-bleeding cleanliness. The weight and cleanliness are said to lend themselves to ease-of-handling and a resultant reduction in placement costs on bridge and trestle construction and maintenance work. *Koppers Company, Inc.*



**CRT display** (RA-5)

The CC-335 Totelcom is a portable, totally self-contained, solid state CRT display terminal which is completely interchangeable with model 33 and 35 Teletypes. Totelcom uses the USASCII character and code set and displays the 64 character upper case graphic subset in a format of 12 lines of either 72 or 80 characters (switch selectable).

The CC-335 operates in two modes. On-line mode provides direct teletypewriter replacement with or without character echo. Off-line mode provides off-line editing and full screen output in either a half or full duplex operating environment.

Totelcom provides data transmission rates of 110, 150, 300, 600, or 1200 bits per second. The self-contained unit includes keyboard, CRT, refresh memory, logic system, communications interface, acoustic coupler and power supply, all packaged in a single carrying case. It weighs approximately 25 lb. *Computer Communications Inc.*

**Paper-tape reader** (RA-6)

Teletype DX asynchronous paper tape reader operates at speeds up to 360 characters per second. The unit can read any 5- through 8-level code, including the American Standard Code for Information Interchange (ASCII). The reader has diode-transistor-logic input and output, allowing interface at the DTL level. Either parallel or serial output signal is available. *Teletype Corp.*

## NEW LITERATURE

**WEED CONTROL.** Geigy Agricultural Chemicals (Division of Ciba-Geigy Canada Ltd.) has issued a full-color folder, designed especially for railway maintenance personnel. It contains technical information and illustrations about use of Geigy chemicals for weed control on railways, as well as at industrial sites. (NL-1)

**CAMPUS TRANSIT.** Westinghouse Electric Corp.'s Transportation Division has prepared a 24-page, illustrated primer describing the role of rapid transit on the university campus. It explains how current rapid transit technology can best be adapted to moving large numbers of people on the nation's campuses. (NL-2)

**VIBRATORS.** The complete line of Cleveland Vibrator Co.'s vibratory products is described in a recently issued 144-page catalog. A new feature in the catalog, a "Vibratory Application Index," is designed to help the user decide which product will be best for his particular use. (NL-3)

**TRAILER CONSTRUCTION MATERIALS.** Vol. 8, No. 1 of Kemlite Corp.'s Kemlite News gives application details of the company's fiber glass-reinforced Kemply panel, Glasbord flat panel, scuff plate and rib panel. It also offers facts about Kemlite's non-corrosive, dentproof Empro fleet signs. (NL-4)

**VIBRATING CONVEYORS.** A 16-page, punched brochure from Webster Manufacturing Co. contains descriptions, specifications, schematics and selection data for the various capacities of Webster vibrating conveyers. (NL-5)

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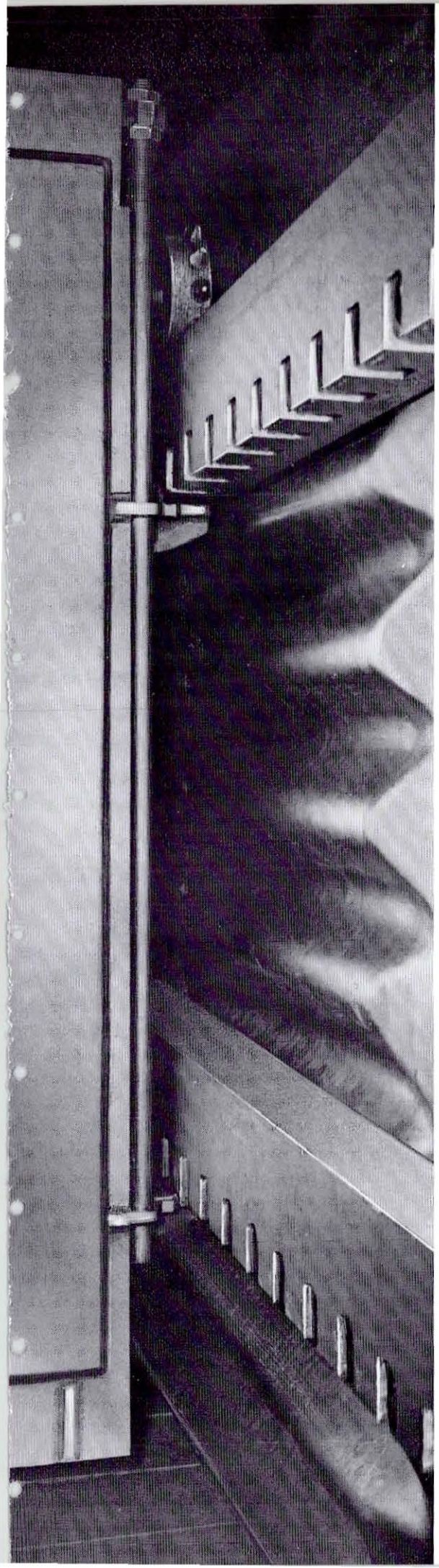

# Stanray's Automatic Locking Bulkhead

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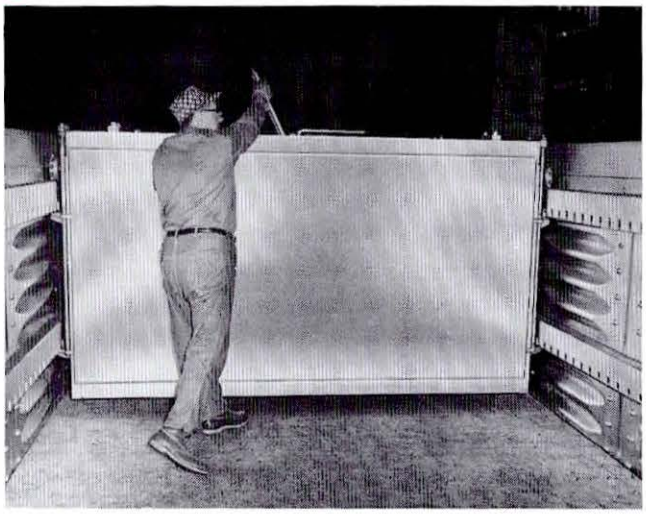

Cuts set-up time to a fraction. One operator can easily move the bulkhead and lock the bulkhead into position with a minimum of time and effort. He simply raises a handle, and easily rolls the bulkhead to its new position (reset in 2-in. increments). When the handle is released, the bulkhead automatically locks into the belt rail. All of the locking mechanisms are gravity activated.

Tests prove Stanray's new bulkhead has an ultimate strength of 115,000 lbs., and a yield strength of 83,000 lbs. The 9-in. thick framework and heavy cast steel locking members provide this bulkhead's super toughness.

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The 25C comes as an attractive single-channel subset. Or the same duplex channel unit can be shelf mounted — up to 8 channels per shelf with a maximum of 18 channels (110 baud) on each VF line. So it lets you use just one voice channel rather than a lot of data lines. And it lets you do it at a very reasonable price. Add to that the 25C's economy of maintenance and you end up with a bundle of savings.

Write GTE Lenkurt Incorporated, Dept. C720, 1105 County Rd., San Carlos, CA 94070. We'll send you all the inside information.

GTE LENKURT

*(Continued from page 40)*

terminal and the airport. London's secondary airport, Gatwick, is served by British Railways. Tokyo has a monorail line to Haneda airport.

In his report to the UITP congress (prepared in cooperation with the Metro systems of London, Paris and Rome), Dr. Ronan described these airport access projects and studies in the U. S. and Europe:

**New York:** J. F. Kennedy International Airport, 20 million passengers a year; 16 miles from center city; 75 minutes by highway at average 13 mph. Travel time will be reduced to 16 minutes with completion of a rail access line to be built by the Port of New York Authority at a cost of $210 million. City terminal will be at Penn Station in midtown Manhattan. The airport line will use trackage of the Long Island, new tracks on an abandoned right of way of the Long Island now owned by the city, and a right of way owned by the city and used by the New York City Transit system. Initial operation will provide for a stub-end terminal station within the airport complex and for in-town check-in of airline passengers.

Newark Airport, 7 million passengers a year; 8 miles from center city; 60 minutes by highway at average 8 mph. Airport link to be built by the Port of New York Authority will connect at Penn Station in Newark with existing PATH commuter lines to midtown and downtown Manhattan. Cost of the airport extension will be $50 million. In addition, the Port Authority will extend the rail line south to Elizabeth and west into suburban Union County at an additional cost of $150 million.

(Stewart Air Force Base, near Newburgh, about 50 miles north of New York City, is to be developed as a fourth jetport serving New York; rail access is planned by the MTA via extension of an existing Erie Lackawanna freight line.)

**Chicago:** O'Hare Airport, 30 million passengers a year; 19 miles from midtown; 60 minutes by highway at average 19 mph. Preliminary studies have called for rail access either by extension of Chicago Transit Authority lines or by using one of Chicago's railroad commuter lines. The Department of Transportation last month awarded Chicago $90,000 to help pay for a $135,000 technical study.

**Los Angeles:** International Airport, 20.4 million passengers a year; 14 miles from center city; 30 minutes by highway at average 28 mph. The U.S. Department of Transportation has proposed building a tracked air-cushion vehicle access line. Subsequent plans (now aborted) for a TACV system serving Washington's Dulles Airport resulted in the temporary suspension of the Los Angeles project,

**San Francisco:** International Airport, 14 million passengers a year; 15 miles from center city; 45 minutes by highway at average 20 mph. Studies for an airport extension of the Bay Area Rapid Transit system are under way.

**Philadelphia:** International Airport, 6.2 million passengers a year; 8 miles from center city; 50 minutes by highway at average 9 mph. A preliminary study has been made for extending tracks of the Penn Central, now used for freight operations, to the airport. The Department of Transportation on May 26 awarded Philadelphia's Department of Public Property a grant of $342,000 for a detailed feasibility analysis and preliminary engineering study for the airport link.

**Montreal:** Dorval Airport, 4 million passengers a year; 14 miles from center city; 75 minutes by highway at average 11 mph. Studies made so far propose extending the Metro or a main line railroad to the airport.

**Toronto:** International Airport, 5.2 million passengers a year; 18 miles from midtown; 60 minutes by highway at average 18 mph. Like Montreal, Toronto is studying extending either its Metro or an existing main line.

**Amsterdam:** Schipohl Airport, 3.4 million passengers a year; 8 miles from center city; 45 minutes by highway at average 11 mph. Dutch Railways is considering the construction of a station at Schipohl to be served by the line between Amsterdam and The Hague.

**Milan:** Linate Airport, 2.2 million passengers a year; 5 miles from center city; 15 minutes by highway at average 20 mph. Construction of an airport line branching off from an existing commuter line of the Italian State Railways is under consideration.

**AIRLINE CREWS** are among the thousands who every day use Cleveland's immensely successful airport line, which was opened in 1968.

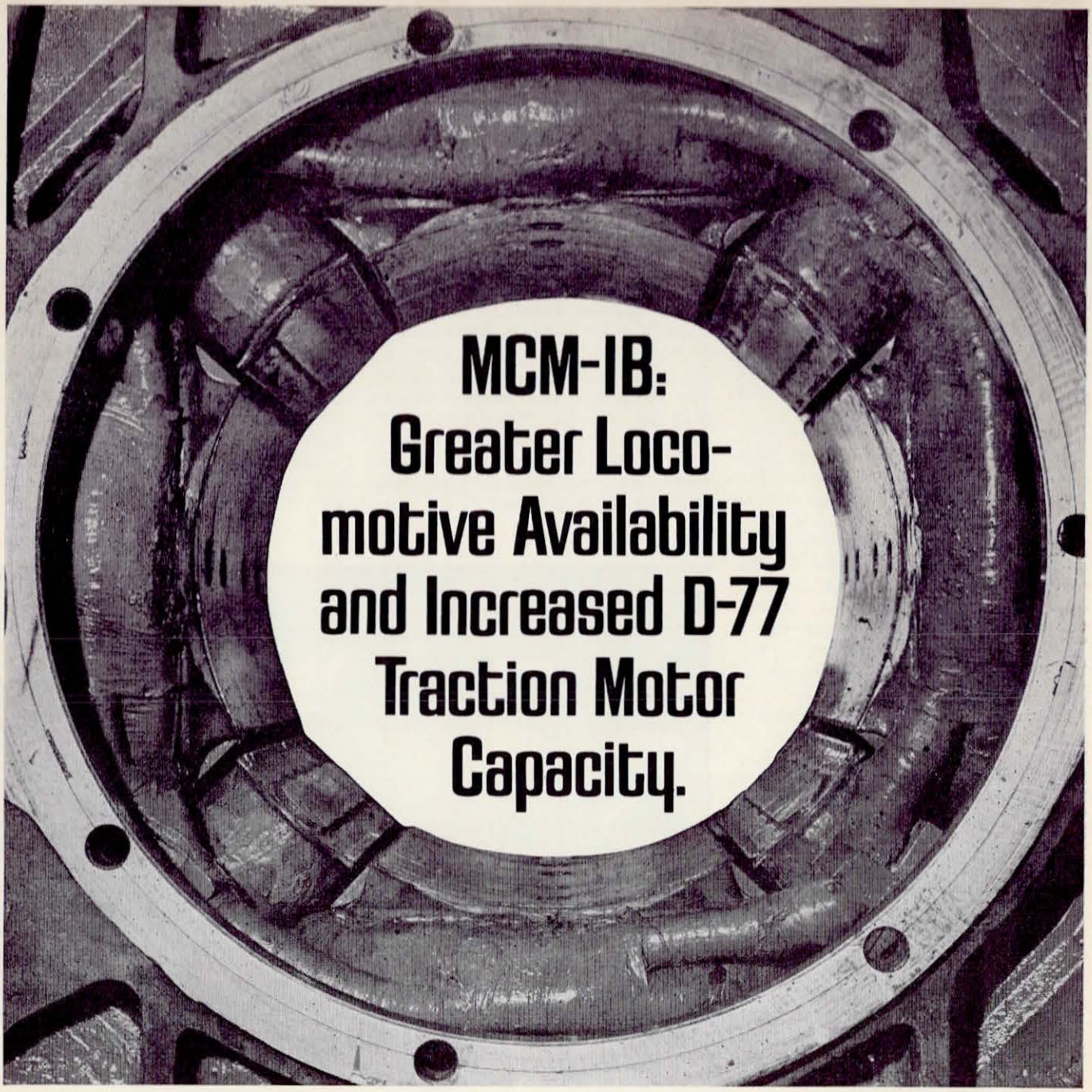
**London:** Heathrow Airport, 13.4 million passengers a year; 15 miles from center city; 35 minutes by highway at average 26 mph. London Transport Executive will construct a four-mile extension of the Piccadilly Underground line to the airport, with service scheduled to begin in 1975.

**Paris:** Orly Airport, 7 million passengers a year; 11 miles from midtown; 45 minutes by highway at average 15 mph. A number of studies have been made or are under way for airport rail access either by extending the Metro or an existing SNCF (French National Railways) commuter line.

**Rome:** Fiumicino Airport, 5.3 million passengers a year; 22 miles from center city; 50 minutes by highway at average 26 mph. Preliminary studies have been made for extending the Metro (STEFER) to the airport.

**Zurich:** Kloten Airport, 4.2 million passengers a year; 7 miles from center city; 25 minutes by highway at average 17 mph. The Swiss government is considering rerouting the main line of Swiss Federal Railways beneath the airport.

Although not included in the UITP study, another city close to a decision on airport access by rail is Washington, D.C. A study being completed by a consulting firm is expected to recommend extending the D.C. Metro system to Dulles Airport, about 25 miles from downtown. At the Metro's present rate of construction, the extension could not come for several years. ■



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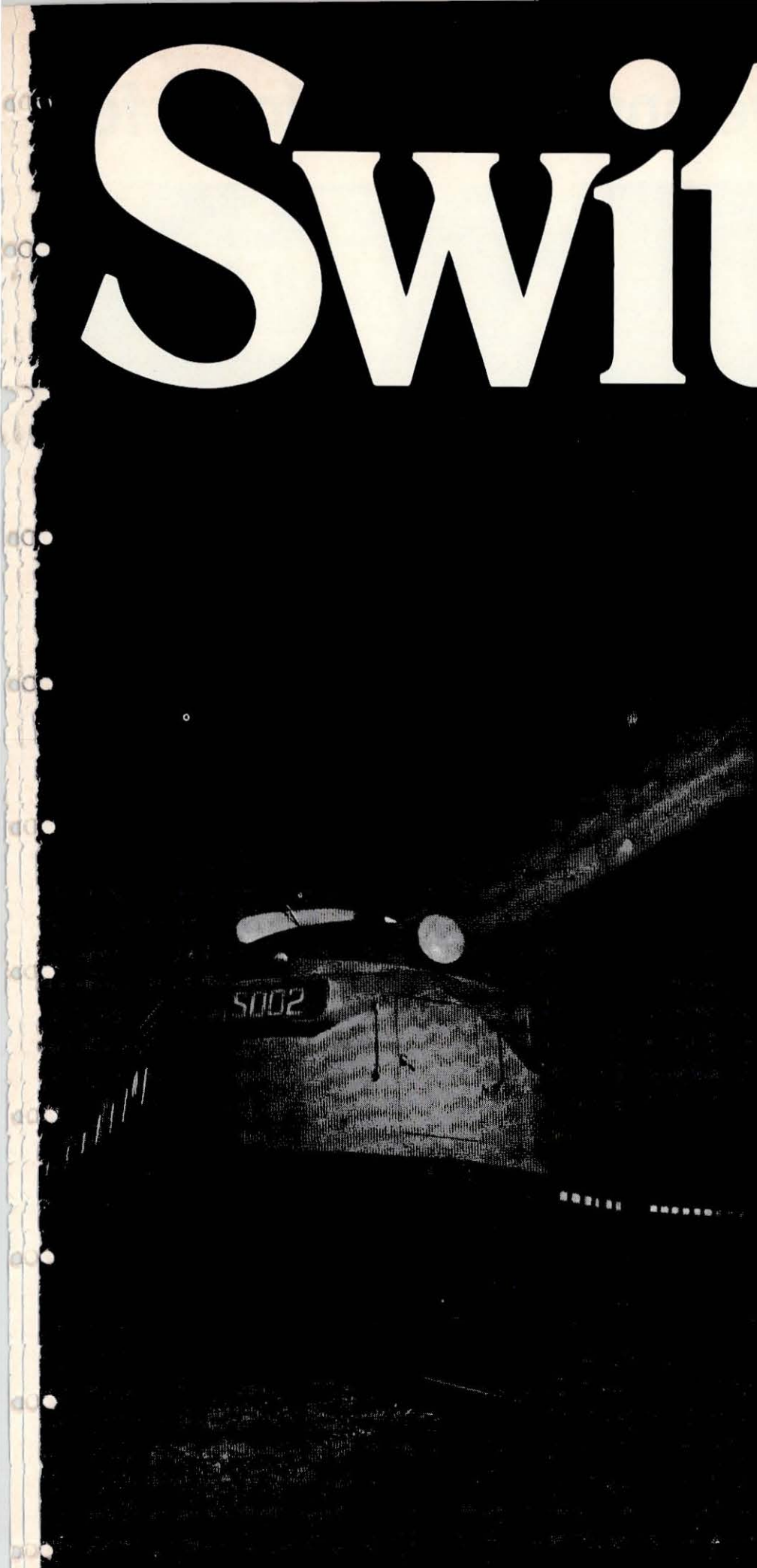

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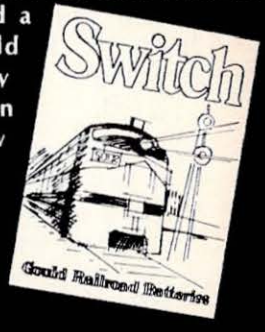


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manager transportation, N&W, Roanoke.

**PENN CENTRAL.—Anthony A. Cicenas,** freight sales manager, Pittsburgh, appointed Northwest sales manager, Chicago, to coordinate activities in Wisconsin, the Dakotas, Iowa, Nebraska, Wyoming, Colorado and Utah and assume the duties of **Ralph W. Nicholas,** freight sales manager, Chicago, retired.

**PITTSBURG & SHAWMUT.—L. B. Mohney, Jr.,** superintendent transportation, Kittanning, Pa., appointed vice president—transportation. **W. R. Weaver,** chief mechanical officer and chief engineer, Brookville, Pa., appointed vice president—maintenance.

**SANTA FE.—S. E. Byler,** assistant to the general manager, Los Angeles, Calif., will retire on July 1, after 48 years with the Santa Fe.

**SEATRAIN LINES.—Arthur C. Novacek,** senior vice president, container division, elected president, container division, Edgewater, N. J. **Frank D. Troxel,** senior vice president for Pacific Services, container division, elected president of Seatrain Lines of California. Messrs. Novacek and Troxel succeed **William M. Cole** who held both titles and who has resigned to form his own managing and shipping consultant firm, **Cole International, Inc.**

**SOO LINE.—Thomas R. Klingel,** senior vice president, elected executive vice president.

**SOUTHERN.—Denton S. Dabbs,** manager—routes and divisions, promoted to director—rates, routes and divisions, remaining in Washington, D.C.

**Donald R. McArdle** appointed comptroller, Washington, D.C. Mr. McArdle was formerly vice president—administration, Seatrain Shipbuilding Corp.


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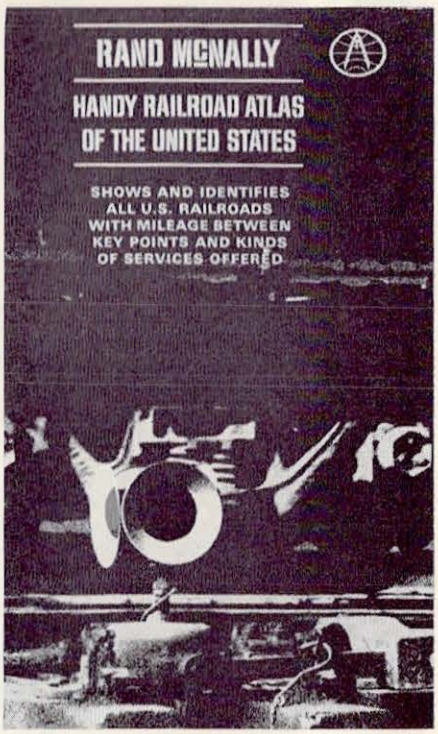
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**HANDY RAILROAD ATLAS OF THE UNITED STATES** by Rand McNally. The 1971 edition continues the style of previous issues, showing the railroads on a state-by-state basis on maps which depict all routes, junctions, terminals and major cities. The maps do not show such extraneous material as drainage, county boundaries and highways. All railroads—trunkline and short line—are included. Mileage between key points is indicated. New tables have been added to give information about the railroads and the states they serve, including the individual companies, their mileages and the locations of general offices. The Atlas should be a valuable reference tool for railroad officers and shippers, aiding them in day-to-day operations and long-range planning. *64 pages; price: $2.95, plus a handling and shipping charge of 50 cents per order; F. Osthoff, Simmons-Boardman Publishing Corp. 350 Broadway, New York, N.Y. 10013.*

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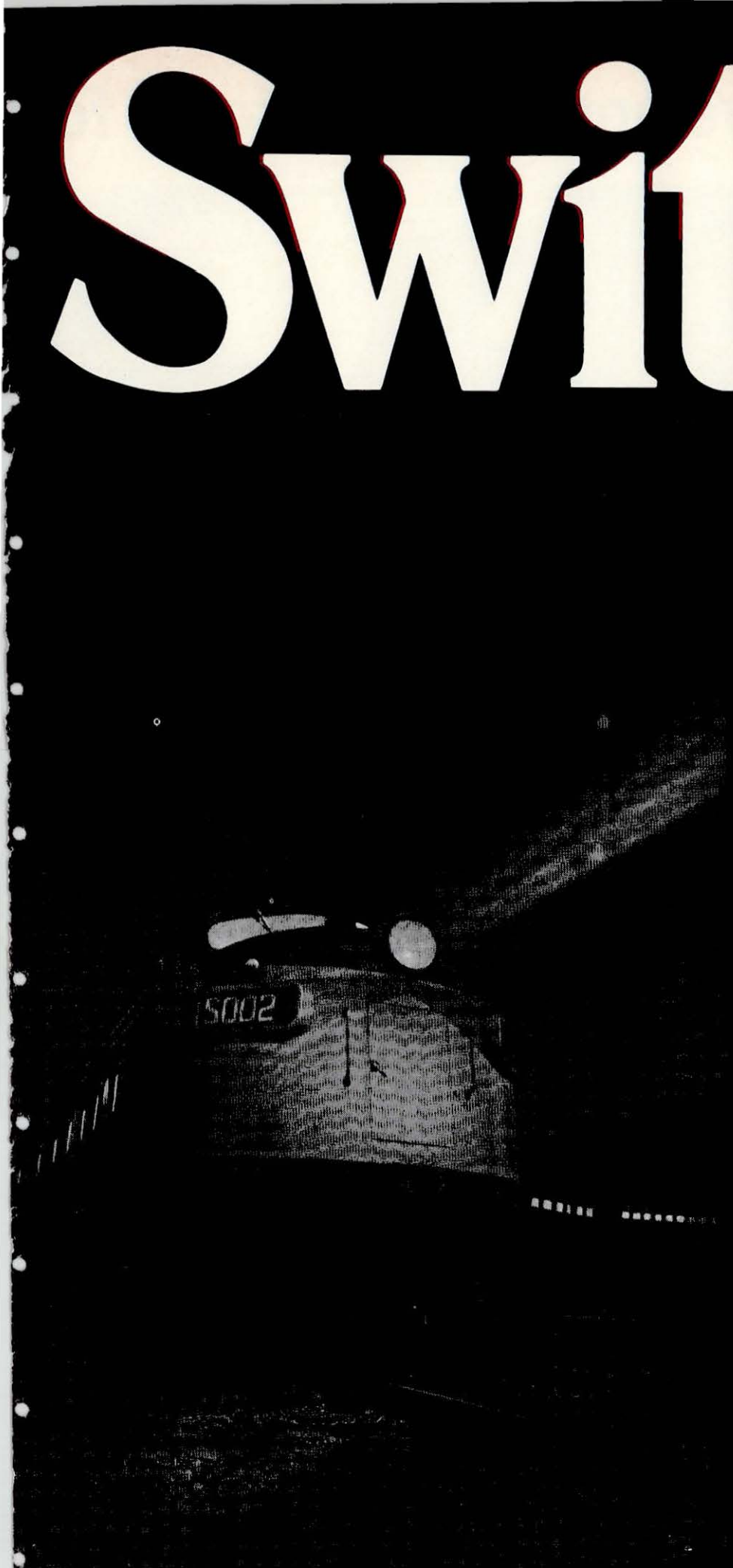

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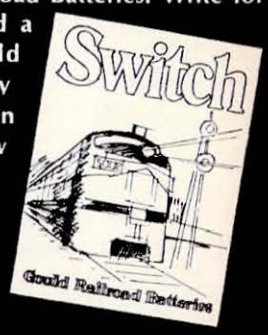


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# UP develops "frozen" joint for

By MERWIN H. DICK, Engineering Editor

Can a bolted-type rail joint be constructed that will be comparable to field butt welds in the elimination of rail movement? Union Pacific engineers wanted to find the answer to this question: They wanted to develop such a joint for use as closure and insulated joints in welded rail territory. But they knew they had a problem because of the heavy traffic carried by some UP lines and the wide temperature variations that take place in the territory served, with the accompanying high-stress build-ups in long welded rails.

Now, after several years of field and laboratory experimentation, UP engineers feel they are getting close to the answer. They are leaning strongly in the direction of a joint that involves use of structural adhesives in conjunction with Huck fasteners. The latter, already in use in railroad car shops and to an increasing extent in making field connections in repair or railroad bridges, is not a threaded fastener. Rather, it involves use of a special tool to swage a locking collar onto a bolt or pin that has been inserted in the holes in the rail and joint bars. Clamping force is applied hydraulically until a pintail on the end of the pin is caused to snap off.

**COLLARS** for the Huck fasteners are applied with a special hydraulic tool. Each collar is swaged onto the bolt until the clamping force causes a pintail to snap off.

● **Laboratory tests.** Test work started in the road's laboratory at Omaha. The tests were designed to determine if a Huck-fastened joint developed the required resistance against longitudinal forces in the rails. The tests also were to make sure that stresses induced in the web of the rail by the clamping action of the Huck fasteners were within allowable limits.

In making the first determination, a joint assembly was made using the Huck fasteners in connection with standard joint bars to join two pieces of 133-pound rail. When loaded longitudinally in the laboratory, the joint showed no movement until the load reached 23,480 pounds, says George H. Maxwell, senior staff engineer in the office of R. M. Brown, UP chief engineer. This force, he explains, is equivalent to the stress which would be developed in 133-pound rail fixed at the ends and subjected to temperature change of 85 degrees.

In making the second determination it was found, through use of strain gauges, that the vertical stress developed in the web of the rail by the clamping action of Huck fasteners was well within the elastic limit of the steel.

The first field installation was made in 1968 in hump tracks in the road's retarder yard at North Platte, Neb. Seventeen joints similar to that fabricated for the laboratory tests were installed as closure joints between welded strings. In addition, four conventional insulated joints, also fabricated with Huck fasteners, were installed in the same trackage.

Observation of the installations at North Platte revealed that, while there was some movement at the joints, it was less than would be expected at bars fastened with standard track bolts.

Since the test joints at North Platte were in slow-speed tracks the next step was to determine the performance of the Huck fasteners in trackage where they would be subjected to impact. For this purpose an installation of eight joints was made in jointed mainline track at Paxton, Neb. Only four Huck fasteners were installed in each joint, standard track bolts being inserted "as insurance" in the end holes of each bar. The line here is subjected to freight-train speeds of 75 mph. It carries about 35 million gross tons of traffic annually.

"From the results of these tests," says Maxwell, "we determined that the Huck fasteners did not provide adequate restraint to 'freeze' conventional insulated joints, as movement occurred with a 30-degree drop in temperature. However, the standard angle-bar joints did not slip under tensile loads until the temperature dropped below 10 degrees F. above zero."

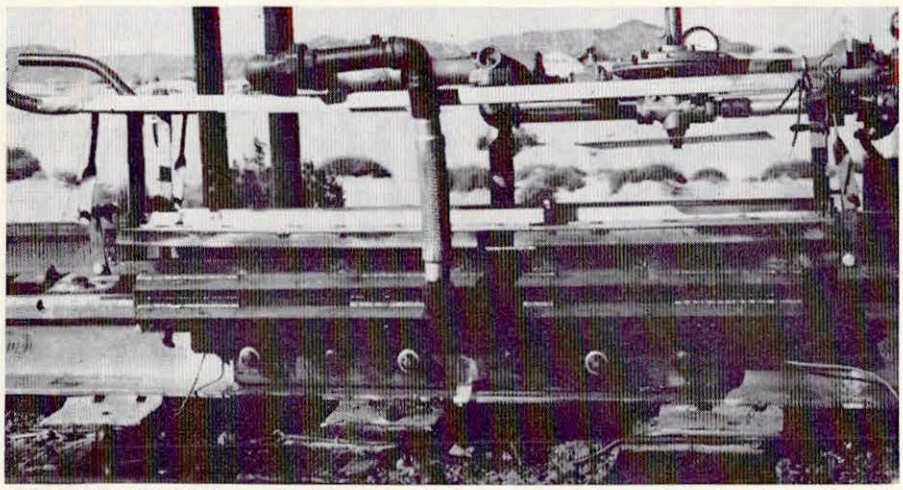
Maxwell went on to say that "a conclusion reached from this test was the fact that Huck fasteners would definitely withstand the impact under high-speed train operations."

Encouraged by the results of these early tests, UP engineers decided to make an out-of-face installation of Huck-fastened joints in welded rail territory. This installation was made at Talmage, Ida. Rail temperature there ranges from 135 degrees above zero to −40 degrees or even lower.

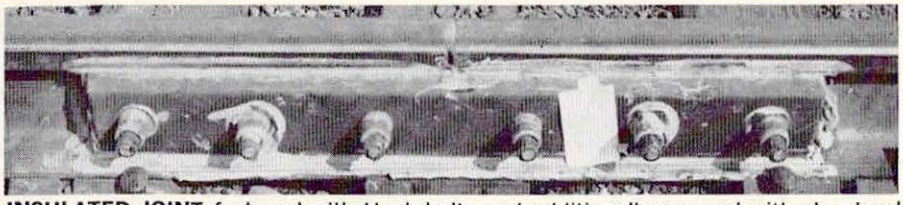
The Talmage installation included 58 standard and 16 insulated joints in a stretch about seven miles long. Made in the fall of 1969, this installation showed that the Huck-fastened joints had a restraining effect on rail movement but did not restrict it altogether.

● **Enter structural adhesives.** At about this point a suggestion was made that changed the course of the investigation. Paul Flebbe, UP's research and standards engineer, came up with the idea of using structural adhesives in conjunction with Huck fasteners.

# welded rail



**INFRA-RED HEATER,** made by Teleweld, Inc., is used to post-heat a "glued" joint, the purpose being to complete the curing cycle of the adhesive.



**INSULATED JOINT** fastened with Huck bolts and additionally secured with structural adhesive. Made by Allegheny Drop Forge Co. it is one of three types tested by the UP.

To determine the value of this suggestion, it was decided to carry out a laboratory test involving a joint made with Huck fasteners and "glued" with 3-M No. 2214 Hi-Flex structural adhesive. For the test, a six-hole toeless 38-inch joint bar with full-web contact was milled from axle steel. Using such bars, Huck fasteners, the structural adhesive and two pieces of 133-pound rail, a joint assembly was fabricated with a ½-inch gap and sent to the AAR laboratory at Chicago for testing.

In a compressive test the gap didn't start to close until a force of 660,000 pounds had been applied. In view of the encouraging results from this test, it was decided to repeat the procedure using the same type of joint assembly fashioned with standard 38-inch toeless angle bars. Again under compression, the gap did not start to close until a force of 530,000 pounds was reached.

Since it had been calculated that a joint in 133-pound rail would have to withstand a force of 287,000 pounds to adequately restrain rail movement at a temperature of −40 degrees, UP engineers felt they were on the right track.

● **Test of glued joints in field.** The road then hurried to make a field installation of glued joints with Huck fasteners. The test was made east of North Platte in track carrying 75-mph freight trains and 35 million gross tons of traffic per year. Eleven standard joints were installed between welded rail strings. All were laid tight at a rail temperature of 80 to 86 degrees. Installation of the joints, which was done by removing and replacing existing joint bars, was carried out under traffic in slightly less than four hours.

Six of the 11 joints in this test were fastened with 1⅛-inch Huck bolts and five with standard 1 1/16-inch track bolts. The Hi-Flex adhesive was used at all joints. Since the installation, the temperature has been down as low as −15 degrees without any movement of the rail, says Maxwell.

● **Talmage test revamped.** The results of this latest installation were so encouraging that it was decided to go back to the Talmage test site, remove all test joint bars and replace them using structural adhesives along with the Huck fasteners. The decision was made even though December had arrived and it was expected there would be a high incidence of failure due to adverse weather conditions.

In this work all standard joints except two were "glued" with the Hi-Flex adhesive, which is one-part formulation. The other two were re-installed using a two-part epoxy adhesive. The insulated joints were of several types. In re-installing them, the Hi-Flex product was used with some and two-part epoxies with others. As with the standard joints, Huck fasteners were used with all the insulated joints.

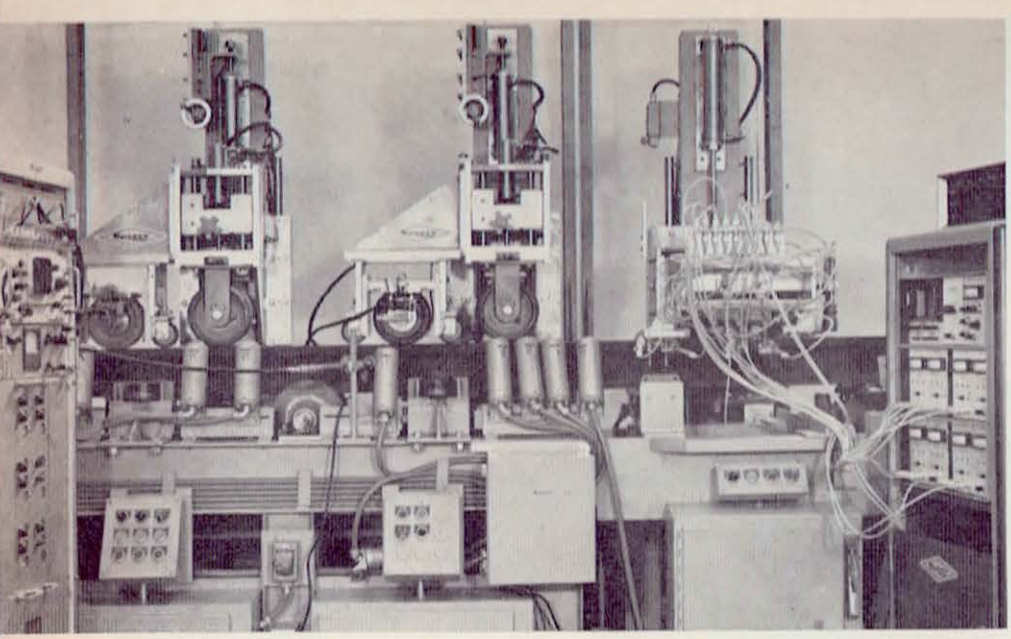
Maxwell explains that some joints in this test were installed during blizzard conditions, with temperatures ranging from 15 degrees above zero to −10 degrees. As a result, there were some failures in these joints, which were attributed to contamination from falling snow. No failures have occurred in those joints put in during dry weather, even though the ambient temperature went as low as −35 degrees and stayed down around zero for three weeks.

● **Test at Kelso, Calif.** The latest installation of Huck-fastened and glued insulated joints was made west of Kelso, Calif., in February 1971, in connection with a project for replacing 15 miles of jointed rail with new welded rail. In this test, 30 insulated joints were installed, 10 each of three different types—Portec Poly-Insulated joints, 3-M full-contact joints with staggered armor plate, and Allegheny Drop Forge insulated rail joints.

One-half the joints of each type were installed with Huck fasteners, the other half with high-strength bolts made from ASTM A-490 steel. Structural adhesives were used with all except the Portec joints.

● **More testing planned for 1971.** Maxwell says the road plans to continue its evaluation of Huck-fastened and glued joints during the present year. It is intended during the 1971 working season to install joints of this type as closure joints in about 200 miles of welded-rail track. Some installations will be in territory where rail was relaid during the past two years; others will be in connection with welded rail to be laid this year. It is planned to make these installations during the period May to September to minimize the possibility of moisture contamination due to rain or snow. Another consideration is that during this period the rail is in compression so that the matter of closing the joints will be no problem.

At this point in the investigation what is the thinking of UP engineers regarding joints made with Huck fasteners and structural adhesives? Maxwell sums it up this way: "In this type of construction we are convinced we have a joint that is comparable to field butt welds so far as eliminating maintenance and reducing rail movement are concerned." ■



**THE EQUIPMENT** demonstrated at Danbury, Conn., which is to be installed later on the L&N at Nashville, Tenn., is shown here as it was arranged for previewing in the Sperry plant. Shown at the right suspended over the rail is the equipment for classifying the rail according to the amount it is worn. The other two devices over the rail are for finding internal defects.

# Rails classified, tested automatically

Danbury, Conn., was the gathering place May 17 for 20 engineering officers representing 10 railroads in the United States and Canada. They had come to witness a preview and demonstration, staged by Sperry Rail Service, a division of Automation Industries, Inc., of a system designed to revolutionize the inspection and classifying of, and testing for, internal defects of railroad rails at a central location.

The equipment demonstrated had been constructed for installation on Louisville & Nashville at Nashville, as part of a complex that also will include a Chemetron flash butt-welding plant and facilities for handling, straightening and storing new and relay rail. The complex, slated for completion on June 28, is to be inspected July 13 by two committees of the American Railway Engineering Association—Committee 22, Economics of Railway Construction and Maintenance, and Committee 31, Continuous Welded Rail.

**THE DEMONSTRATION** was viewed by 20 engineers representing 10 railroads in the United States and Canada.

● **Based on ultrasonics.** The Sperry system is automated and computerized. It uses ultrasonics to detect internal defects and also to measure wear, kinks and bends. It is designed to process new and relay rail which is delivered to the test location on a power conveyor that moves continually at a rate of 120 feet per minute. Rails varying in length from 25 feet to 39 feet and in weight from 90 pounds to 155 pounds can be handled.

For the preview, the equipment had been set up in the Sperry plant. A rail with known defects was moved back and forth semi-automatically to demonstrate the working of the system. In actual practice, the system includes, as the first station, a multiple wire-wheel cleaning assembly which is capable of removing scale, dirt and minor grease deposits from the top surface of the rail head. The purpose is to remove such foreign matter to the degree required for the ultrasonic testing.

● **Kinks, bends detected.** Following the cleaning, the rail passes through a station for determining whether it contains bends or end kinks exceeding set criteria. Rails not meeting this test are made to skip the further tests, being automatically shunted to a kinked-rail table. They will later be straightened and re-routed through the system.

Rails that pass the bend and kink tests next come to a station where they are classified into five categories according to head wear, gauge wear and over-roll. The classifications are designated as rejects (scrap), and rail for industry tracks, for yard tracks, for use in constructing panels, and new rail. The specific classification data are stored and indicated on the computer panel by means of color-coded lights.

● **Finding internal defects.** At the next station, rails are tested for internal defects. Here, by means of ultrasonic roller search units, the system is designed to locate transverse defects, detail fractures, engine-burn fractures or transverse separations developing from thermal cracks, horizontal split heads, vertical split heads, head-and-web separations and joint defects. In all cases, the system is set to signal presence of a defect if it exceeds or conforms to predetermined criteria.

A paint-spray system automatically marks the location of a defect and indicates whether it is in the head or web section. Relay rails slated to be cropped are not tested in the joint-bar areas.

Information furnished by the several ultrasonic test stations is fed to a computer control system. This, among other things, controls the paint-spray system. It also causes the functioning of controls in the conveyor system that result in the rails being shunted onto the proper tables, depending on their wear classification, the presence of kinks or bends or internal defects.

The computer also provides for automatic stopping of the conveyor system if any malfunction occurs, causes each rail to be tracked through the various stations by means of panel lights, and indicates the number of rails in each skid or table for a continuous 16-hour period.

Supervision consists of one man. He is needed only if the system stops. In that case, his function is to determine the cause of the trouble and correct it. ■

# People in the News

**CENTRAL OF GEORGIA—SOUTHERN.**—Effective May 31, the office of vice president–law, CofG and its subsidiaries, was consolidated with the Southern Law Department in Washington, D.C. **John B. Miller,** vice president–law, CofG, Savannah, named Southern's assistant division counsel for the Savannah area. **Julian C. Sipple,** general solicitor, CofG, retired after almost 42 years of service, but will serve as local counsel for Southern at Savannah. **William H. Teasley,** general attorney, CofG, Savannah, on April 1 became general attorney, Southern, Washington.

**DENVER & RIO GRANDE WESTERN.—Jack D. Key** named assistant vice president–sales and service, Denver. **C. H. Smith** appointed manager–market and equipment research, Denver. **T. A. Arnold,** assistant manager–equipment research, Denver, named director–management–planning and controls. Mr. Arnold's successor is **L. R. Parsons. L. O. Wurm,** assistant manager–pricing, retired Mar. 31 after more than 33 years of service, and **D. F. Pedersen** named assistant manager–pricing.

**INDIANA HARBOR BELT.—Bert L. Strohl,** assistant general manager, Southern Region,, **Penn Central,** Indianapolis, named general manager, **IHB,** Gibson, Ind., to succeed **Donald A. Swanson,** appointed general manager, Central Region, **PC,** Pittsburgh.

**LOUISVILLE & NASHVILLE.—Charles D. Leddon** appointed assistant vice president–industrial engineering, Louisville.

**G. T. Bruenig,** assistant superintendent, Evansville, Ind., named assistant director, transportation, planning and procedures, Louisville. Appointed assistant managers, data control and station operations are **T. L. Wilson,** Louisville; **R. H. Flynt,** Atlanta; **M. E. MacGregor,** Birmingham, Ala.; **C. E. Fackler,** Evansville.

**MAINE CENTRAL.—D. G. Merrill,** assistant manager operations and maintenance, **Bangor & Aroostook,** named assistant vice president–mechanical, MeC, Portland, Me. **S. P. Park,** assistant chief mechanical officer–mechanical engineer, MeC, named chief mechanical engineer, Portland.

**MILWAUKEE.—William E. Ross,** comptroller, appointed assistant vice president–finance and accounting. **Fritz H. Miller,** assistant comptroller, elected comptroller.

**MINNEAPOLIS, NORTHFIELD & SOUTHERN.—Dale H. Reubish,** western traffic manager, Seattle, Wash., elected executive general traffic manager, Minneapolis, succeeding **R. E. Birkholz,** appointed general general traffic manager. **R. E. Versen** has been named traffic manager.

**MISSOURI-KANSAS-TEXAS. — William H. Zeidel** named assistant vice president-operation, Dallas.

**MISSOURI PACIFIC.—Hugh S. Vierling** elected vice president, Chicago; **Thomas H. O'Leary,** vice president–finance, St. Louis; **Gene N. Fondren,** vice president, Washington, D.C. Mr. Fondren succeeds **Frederick E. Richter,** retired.

**NORFOLK & WESTERN.—James E. Carr,** vice president of industrial real estate and taxation, named vice president–sales, Roanoke. **John R. McMichael** assistant vice president–pricing and marketing, appointed vice president of pricing and marketing. **Dan A. Kiley,** assistant vice president, industrial real estate and taxation, appointed vice president–taxation. **Walter S. Clement,** vice president, Washington, named vice president–public affairs, Roanoke. **John A. Barrett,** vice president, merchandise traffic department, retired June 1.

**Thomas C. Hostutler** appointed manager corporate accounting, Roanoke. He was formerly associated with the accounting firm of Peat, Marwick, Mitchell & Co.

**NORFOLK, FRANKLIN & DANVILLE.—Louis G. Grace** appointed general manager, Suffolk, Va., succeeding **William G. Blades,** promoted to other duties in Roanoke with the **Norfolk & Western.** Mr. Grace was formerly assistant to general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manager transportation, N&W, Roanoke.

**PENN CENTRAL.—Anthony A. Cicenas,** freight sales manager, Pittsburgh, appointed Northwest sales manager, Chicago, to coordinate activities in Wisconsin, the Dakotas, Iowa, Nebraska, Wyoming, Colorado and Utah and assume the duties of **Ralph W. Nicholas,** freight sales manager, Chicago, retired.

**PITTSBURG & SHAWMUT.—L. B. Mohney, Jr.,** superintendent transportation, Kittanning, Pa., appointed vice president—transportation. **W. R. Weaver,** chief mechanical officer and chief engineer, Brookville, Pa., appointed vice president—maintenance.

**SANTA FE.—S. E. Byler,** assistant to the general manager, Los Angeles, Calif., will retire on July 1, after 48 years with the Santa Fe.

**SEATRAIN LINES.—Arthur C. Novacek,** senior vice president, container division, elected president, container division, Edgewater, N. J. **Frank D. Troxel,** senior vice president for Pacific Services, container division, elected president of Seatrain Lines of California. Messrs. Novacek and Troxel succeed **William M. Cole** who held both titles and who has resigned to form his own managing and shipping consultant firm, **Cole International, Inc.**

**SOO LINE.—Thomas R. Klingel,** senior vice president, elected executive vice president.

**SOUTHERN.—Denton S. Dabbs,** manager—routes and divisions, promoted to director—rates, routes and divisions, remaining in Washington, D.C.

**Donald R. McArdle** appointed comptroller, Washington, D.C. Mr. McArdle was formerly vice president—administration, Seatrain Shipbuilding Corp.


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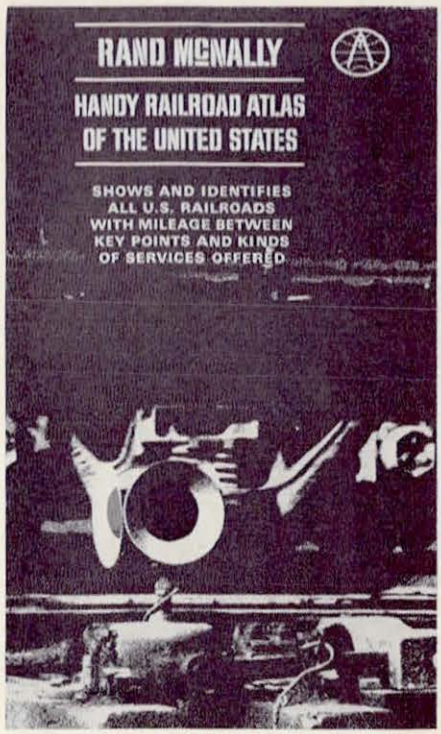
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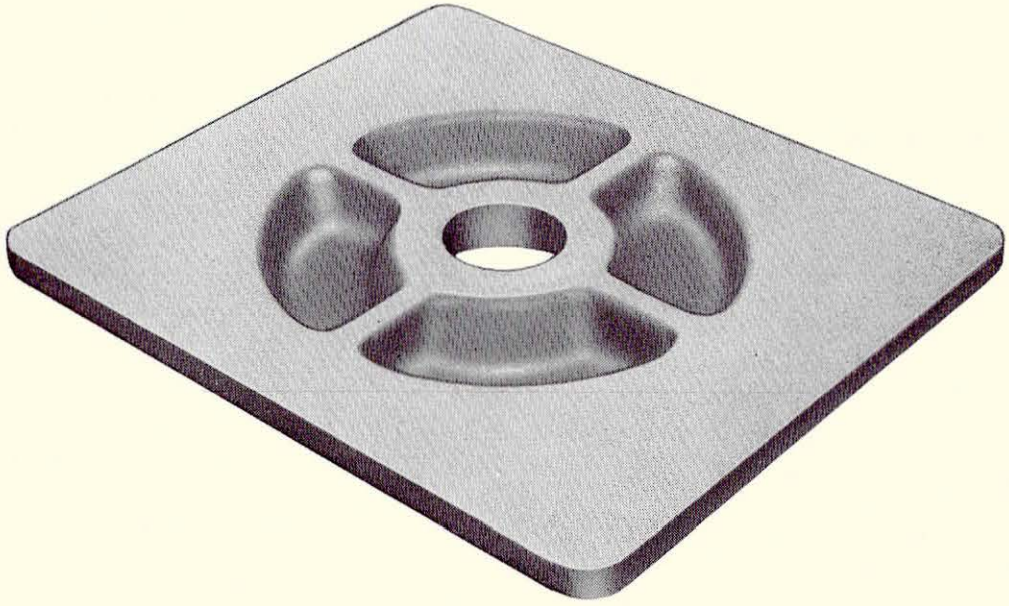

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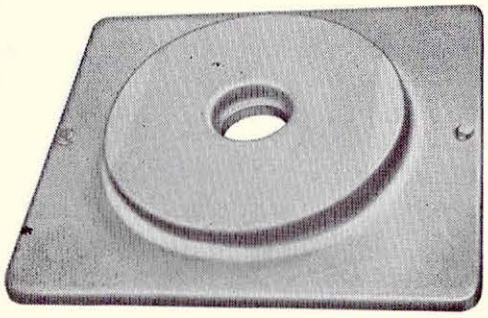

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## TRANSIT

**John J. Gilhooley,** former senior commissioner of the New York City Transit Authority, and a director of Amtrak, has been named chairman, president and chief executive officer of **Public Service Coordinated Transport,** New Jersey's biggest bus company and operator of Newark's subway.

**Roger A. Walton** has been appointed public information director, **Regional Transportation District,** Denver, Colo.

## SUPPLY TRADE

**Hugh W. Foster,** vice president, marketing, **Pullman Transport Leasing Co.,** has been elected to the newly created position of vice president and general manager.

**John G. Matheis** has been named vice president of sales and services, **St. Louis Car Division, General Steel Industries, Inc.** He was previously manager of sales and services for the division.

**Robert A. Cameron** has been appointed vice president—finance and treasurer, **Federal Sign & Signal Corp.** He was formerly vice president—finance, **Meijer, Inc.,** Grand Rapids, Mich.

**Duane W. Utech,** director—truck equipment sales, **Fruehauf Division, Fruehauf Corp.,** has been promoted to director—new trailer sales, with headquarters continuing in Detroit.

**James E. Byrne** has been elected vice president—operations staff, **Westinghouse Air Brake Co.** and director—operations staff, Industrial Products Business, **American Standard,** Pittsburgh. Mr. Byrne was formerly director of engineering, North American staff, International Telephone & Telegraph Corp., New York.

**W. D. Reuter,** regional sales engineer, **Buckeye Steel Castings Division, Buckeye International,** Columbus, Ohio, has been named general manager, railroad product sales.

**Dave MacNaughton** has returned to **North American Car (Canada) Limited** as director, sales and marketing, Montreal.

On May 10 the name of **Integrated Container Service Industries Corp.,** New York, was changed to **Interway Corp.** Interway Corp. and its subsidiary **Integrated Container Service, Inc.,** moved on May 13 to 555 Fifth Avenue, New York, N. Y. 10017, from 230 Park Avenue.

## OBITUARY

**Stephen G. Harwood,** 60, vice president of **Portec, Inc.,** and general manager of its Railway Products Division, died of a heart attack May 23 on the South Coast, Fiji Islands. He was returning from a business trip to Australia.


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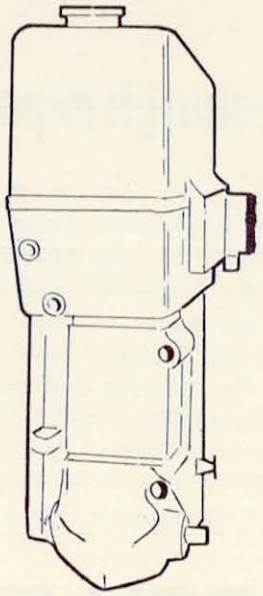

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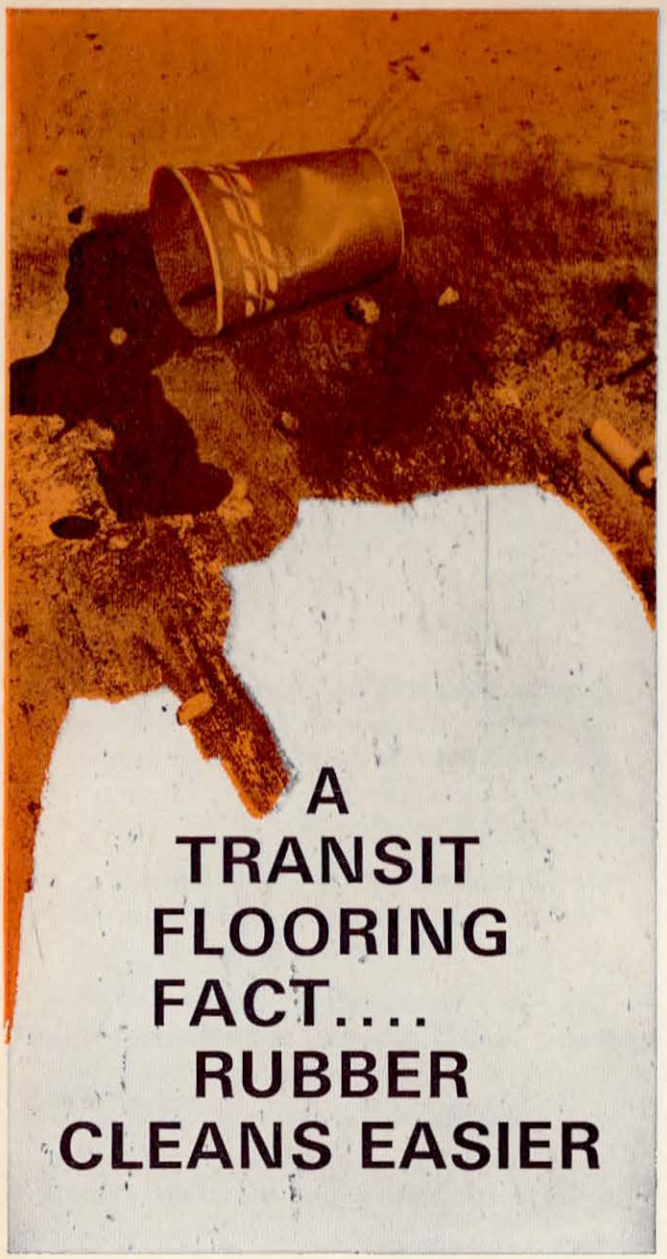

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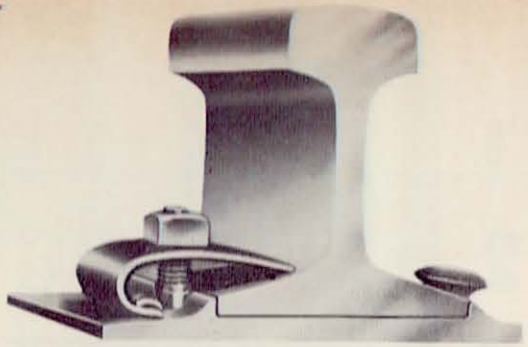

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# Market Outlook

## CARLOADINGS

Loadings of revenue freight in the week ended May 29 totaled 571,181 cars, according to the Association of American Railroads. This was an increase of 106,226 cars, or 22.8%, compared with the previous week—during which the two-day nationwide rail strike occurred—and an increase of 12,975 cars, or 2.3%, compared with the corresponding week last year.

REVENUE FREIGHT CARLOADINGS

| Commodity | May 29 week | May 22 week |
|---|---|---|
| Grain | 22,390 | 16,627 |
| Farm products | 11,766 | 9,683 |
| Metallic ores | 53,735 | 50,272 |
| Coal | 109,858 | 86,337 |
| Crushed stone, gravel & sand | 32,339 | 25,912 |
| Nonmetallic minerals | 10,829 | 9,212 |
| Grain mill products | 19,407 | 15,419 |
| Food & kindred products | 26,232 | 21,068 |
| Primary forest products | 24,533 | 20,850 |
| Lumber & wood products (except furniture) | 16,824 | 13,552 |
| Pulp, paper & allied products | 24,548 | 20,979 |
| Chemicals & allied products | 27,733 | 24,359 |
| Petroleum products | 9,840 | 8,093 |
| Stone, clay & glass products | 22,056 | 17,689 |
| Coke | 9,614 | 7,553 |
| Metals & products | 31,227 | 24,594 |
| Motor vehicles & equipment | 25,775 | 21,135 |
| Waste & scrap materials | 16,680 | 13,075 |
| Forwarder & shipper assn. traffic | 6,243 | 4,548 |
| All other carloads | 68,957 | 53,885 |
| LCL traffic | 595 | 477 |
| Total cars loaded | 571,181 | 465,319 |

| CUMULATIVE TOTAL, 22 weeks | 1971 | 1970 | 1969 |
|---|---|---|---|
| | 11,020,643 | 11,394,674 | 11,592,098 |
| Estimated revenue ton-miles (billions) 22 weeks | 317.8 | 322.4 | 319.5 |

## PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended May 22—when the strike occurred—totaled 18,435 cars (26.9% below the corresponding week last year) and 31,912 trailers or containers (down 23.8% from 1970). Cumulative volume for the first 21 weeks of 1971 is 471,080 cars (off 5.9% from last year) and 760,601 trailers or containers (down 5.5% from 1970). In addition to freight, 2,404 cars carrying 3,764 trailers or containers of mail and express traffic were handled piggyback. Cumulative figures for the first 21 weeks of 1971 are 69,316 cars (down 3.0% from the 1970 total), and 102,591 trailers or containers (down 9.6% from 1970).

CANADA.—Railways loaded 4,538,237 tons of revenue freight during the 7-day period ended May 14, up 8.1% from the corresponding period of 1970. The number of cars loaded rose 5.9% to 81,471. Year-to-date tonnage loaded declined by 0.5% to 69,540,162 tons, and the number of cars loaded declined by 1.9% to 1,328,350.

## TRANSIT

● *Dallas-Fort Worth.*—WABCO Monorail Division of Westinghouse Air Brake is the apparent low bidder on an automatic transportation system (AIRTRANS) for the new Dallas-Fort Worth Regional Airport. WABCO's bid on the basic configuration of the project was $17,199,556. The next bid was $19,990,048 by LTV. Bendix Corp.'s bid was $27,887,000, and Westinghouse Electric's was $30,791,548. The basic system is approximately 9½ miles. The bidding was complicated by division into five different configurations; two of the bidders offered alternate bids on some of the phases. While WABCO was low bidder in every category, the bids are subject to approval by the airport board of directors.

## FREIGHT-TRAIN CARS

● *Grand Trunk Western.*—Ordered 66 auto-frame flat cars from Bethlehem Steel. The 89-ft, 4-in. cars will be equipped with racks from Moore Iron Works. Cost of the cars is estimated at $1,150,000. Deliveries began late in May.

● *Norfolk Southern.*—Ordered 150 50½-ft. "Precision Design" box cars from the Amcar Division of ACF at an approximate cost of $2.3 million. The cars, for general service, will have 70-ton roller bearing trucks and 10-ft sliding doors. Delivery is scheduled for the third 1971 quarter. Also, NS recently received 100 40-ft, 50-ton box cars from United States Railway Equipment. These cars, costing $1.3 million, have roller bearings, 9-ft sliding doors and nailable steel floors. They were secured under lease arrangements with USRE.

● *Seaboard Coast Line.*—Has invited bids for the purchase of $8,790,000 principal amount of equipment trust certificates to finance the purchase of 506 new cars valued at $10,995,269, including: 100 90-ton high-roof box cars and 400 100-ton, 7,000-cu-ft-capacity woodchip hopper cars, from Pullman-Standard; and six heavy-duty flat cars from Berwick.

● *Southern.*—Ordered 2,000 new freight cars at a total cost of $33 million. Included are 1,400 50½-ft general purpose box cars from Pullman-Standard; and 600 100-ton, 3,600-cu-ft-capacity hopper cars from Greenville Steel Car.

● *Trailer Train.*—Ordered 165 cars as follows: from Amcar Division of ACF—42 standard-level cars; from Bethlehem Steel—41 standard-level and 22 100-ton cable reel cars; from Pullman-Standard—60 low-level cars. All will be 89 ft, 4 in. long, except the cable reel cars, which will be 68 ft long. Since Jan. 1, TTX has ordered 526 new cars. As of June 1, TTX had 59,118 cars in service or on order.

● *Orders and deliveries.*—Orders were placed for 4,107 new freight cars in April, compared with 5,304 in the preceding month and 5,501 in April 1970. New cars on order and undelivered on May 1 totaled 23,563, compared with 25,193 on April 1 and 34,491 on May 1, 1970.

### FREIGHT TRAIN CARS DELIVERED AND ORDERED AND BACKLOG OF ORDERS

| DELIVERED | April 1971 | March 1971 | April 1970 |
|---|---|---|---|
| Built new by carbuilders | 4,431 | 4,262 | 4,800 |
| Built new in R.R. shops | 1,066 | 764 | 1,648 |
| Built new—total | 5,497 | 5,026 | 6,448 |
| Rebuilt | 367 | 308 | 575 |
| **TOTAL DELIVERED** | **5,864** | **5,334** | **7,023** |
| **ORDERED** | | | |
| To be built new by carbuilders | 3,782 | 3,885 | 5,501 |
| To be built new in R.R. shops | 325 | 1,419 | — |
| To be built new—total | 4,107 | 5,304 | 5,501 |
| To be rebuilt | 1,185 | 260 | 948 |
| **TOTAL ORDERED** | **5,292** | **5,564** | **6,449** |

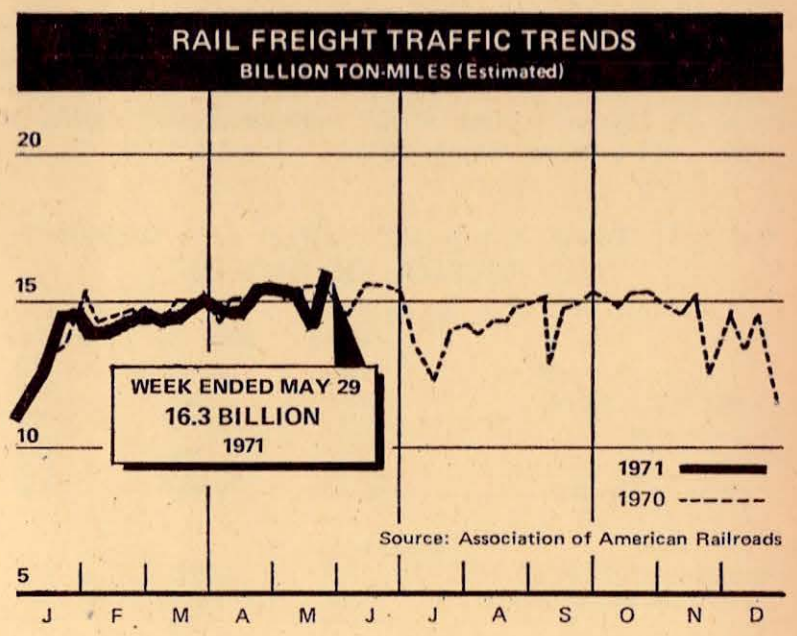
| ON ORDER AND UNDELIVERED | May 1, 1971 | April 1, 1971 | May 1, 1970 |
|---|---|---|---|
| To be built new by carbuilders | 19,059 | 19.948 | 26,308 |
| To be built new in R.R. shops | 4,504 | 5,245 | 8,183 |
| To be built new—Total | 23,563 | 25,193 | 34,491 |
| To be rebuilt | 2,963 | 2,145 | 5.503 |
| **TOTAL ON ORDER** | **26,526** | **27,338** | **39,994** |

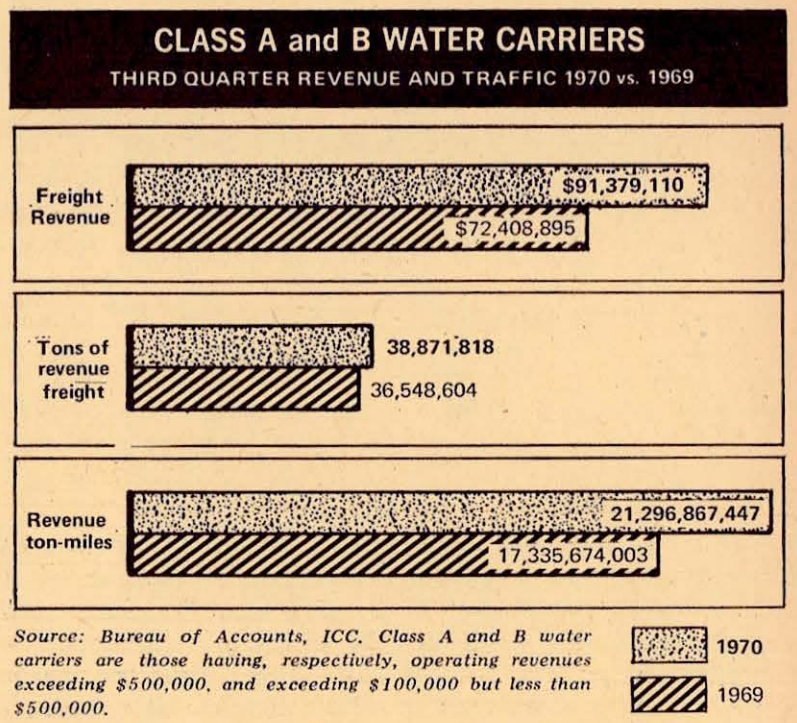
● *April bad order ratio 0.1% higher than last year.*—Class I roads on April 1, 1971, owned 1,430,499 freight cars, 3,577 fewer than on April 1, 1970, according to AAR report summarized below. Bad order ratio was 0.1% higher than on April 1, 1970.

| | April 1, 1971 | April 1, 1970 | Change |
|---|---|---|---|
| Car ownership | 1,430,499 | 1,434,076 | −3,577 |
| Waiting repair | 79,751 | 81,161 | −1,410 |
| Repair ratio | 5.6% | 5.7% | −0.1% |

## NEW FACILITIES

● *Burlington Northern.*—Awarded a $3,059,000 contract for construction of the superstructure of Latah Creek bridge at Spokane to Hensel Phelps, of Greeley, Colo. The same firm was also low bidder earlier in 1971 on the substructure of the $5-million bridge. The 4,000-ft Latah Creek structure will be of steel box girder construction with a concrete deck, supported by single-column concrete piers. Steelwork (2,700 tons) will be fabricated by Kansas City Structural Steel Co., Kansas City.




*Source: Bureau of Accounts, ICC. Class A and B water carriers are those having, respectively, operating revenues exceeding $500,000, and exceeding $100,000 but less than $500,000.*

# Viewpoint

## Tell the story— and tell it straight

When you spend money for something year after year, the logical assumption has to be that you're reasonably well satisfied with what the expenditure produces. Railroads spend a fair piece of change, each year, for the support of employee publications. So, when somebody comes along and says that most of the pubs "are filled with the pap of nonsense," as USC's Dr. Norman B. Sigband does in this issue (page 23), controversy can be expected.

Dr. Sigband also notes, however, "a steady trend in the right direction . . . in recent years"—and with this, Railway Age would wholeheartedly agree. Company publications are, in fact, coming to grips with basic issues more frequently and with more impact. It takes no great probing of memory to rattle off the names of a dozen or more publications that do a consistent job of reporting (and, to an extent, editorializing) on the basic issues—including the issue of management/labor relations.

Years ago, when most railroad publications were in the formative stages, there were valid reasons for their taking the homey, folksy approach. Something was needed to tie the railroad "family" together—and the company magazine was it.

But times have a habit of changing. There is still a need for tying the family together—but now it's a need based on common-cause, and a need that cannot be satisfied with idle chit-chat.

There is, of course, a body of opinion within the industry which holds that "you can't communicate with employees" in areas where the company's communication might be in conflict with what the employee is getting from his labor organization. If this were true, the industry would be in a sorry state indeed. Fortunately, rather solid evidence—including, in a major way, reader surveys taken by Missouri Pacific—indicates that it is not true.

### THE IMPACT CAN BE GREAT

Like so many things—in and out of railroading—employee communication comes down to a matter of commitment. If top management chooses not to lay it on the line—or, perhaps even worse, if top management has no clear policy at all—no editor is going to stick his neck out and take a chance on winding up in the unemployment line.

Company publications will probably never match union publications in their frequency of dealing with the so-called gut issues. Essentially, company publications exist for several purposes, union publications for only one. But the impact can be great, when a company publication does a straightforward, thoughtful, fair job in handling controversial material. MoPac's surveys seemed to prove that (RA, Jan. 11, p. 20).

The alternative to communicating is not communicating. It's a pretty wretched alternative in this day and age, in view of the distortions that inevitably occur when an employee's information sources are limited to his union, the general press and word-of-mouth fact-scrambling.

Management knows management's story. Only management can tell it straight. And the telling is not merely advisable. It's imperative.

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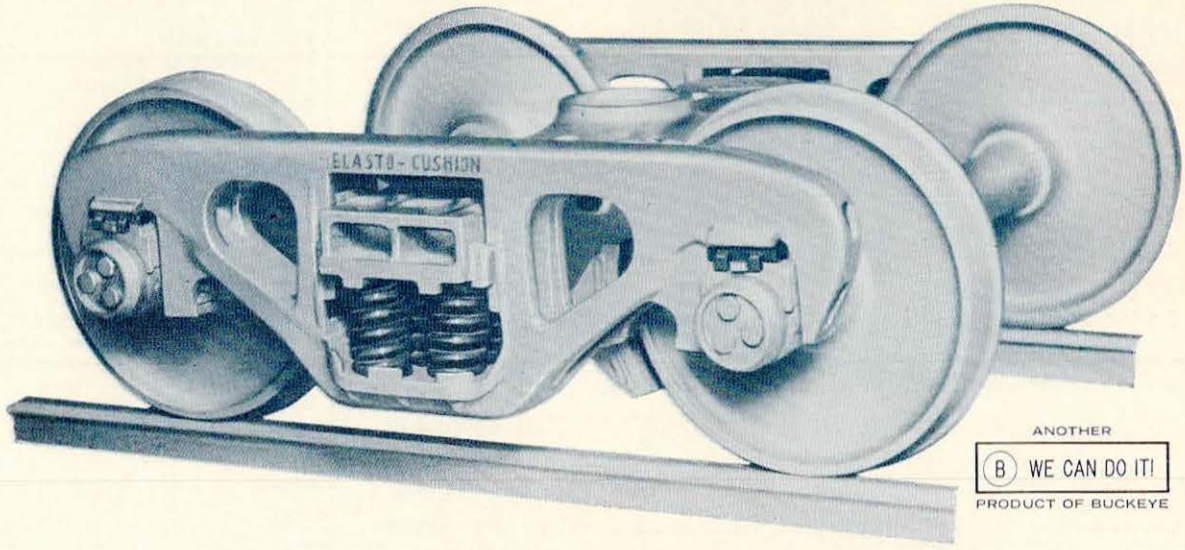


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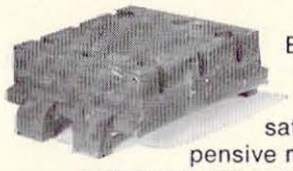

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American Steel Foundries ..... 21
Buckeye Steel Castings Div. ..... 61
Cardwell Westinghouse Company ..... 9
C F & I Steel Corporation ..... 18-19
Cities Service Oil Co. ..... 22
General Steel Industries, Inc. ..... 35
Gould-National Batteries, Inc. ..... 47
Greenville Steel Car Company ..... 16-17
GTE Lenkurt Incorporated ..... 44
Gustin-Bacon Division ..... 20
Holmes Co., Ernest ..... IFC
International Nickel Co., The ..... 38-39
Kerite Company, The ..... IBC
LeMere Industries, Inc. ..... 56
Lord Manufacturing Co. ..... 6
Motor Coils Mfg. Co. ..... 46
Nordberg-Div. of Rex Chainbelt, Inc. ..... 4
NTN Bearing Corp. of America ..... 55
Pittsburgh Forgings Company ..... 53
Rails Company, The ..... 56
Railway Educational Bureau ..... 62-64
Railway Signal & Communications Suppliers Ass'n., Inc. ..... 52
R.C.A. Rubber Co., The ..... 56
Safety Electrical Equipment Corp. ..... 37
Sardello, Inc. ..... 54
Servo Corporation of America ..... 29
Speno, Frank ..... 62
Standard Car Truck Co. ..... 3
Standard Railway Equipment Div. ..... 43
Timken Company, The ..... 32-33
Universal Railway Devices ..... 10
Western-Cullen Division ..... 54
Wix Corporation ..... 51
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# Government takeover of fixed plant?

## Rail Foundation lists "advantages, benefits"

The Rail Foundation of Washington, D.C., is trying to stir up interest in a proposal calling for "government acquisition, operation, and maintenance of railroad rights of way, track, signal systems, and other fixed facilities."

A memorandum listing the "advantages and benefits" of such a takeover is being circulated among railroad leaders, transportation consultants and within the academic community by Anthony Haswell, president of the Rail Foundation. Haswell also heads the National Association of Railroad Passengers.

The memorandum lists four "basic assumptions":

(1) "Train operation, equipment supply, sales and marketing functions, etc., to be performed by private freight train operators, including common carriers, forwarders, and shippers; the National Rail Passenger Corporation; and state, regional and local commuter and 'corridor' passenger agencies."

(2) "Payment of 'user' charges by rail carriers; these charges would cover operating and maintenance costs and also make some contribution toward capital improvements."

(3) "Establishment of a reasonable level of Federal appropriations for capital improvements to fixed properties owned by the Federal government, commensurate with past and continuing unreimbursed government expenditures on other modes."

(4) "Full annual payment by Federal government of all state and local property taxes now imposed against railroad fixed facilities, in the same proportion as now to tax revenues from non-railroad real estate."

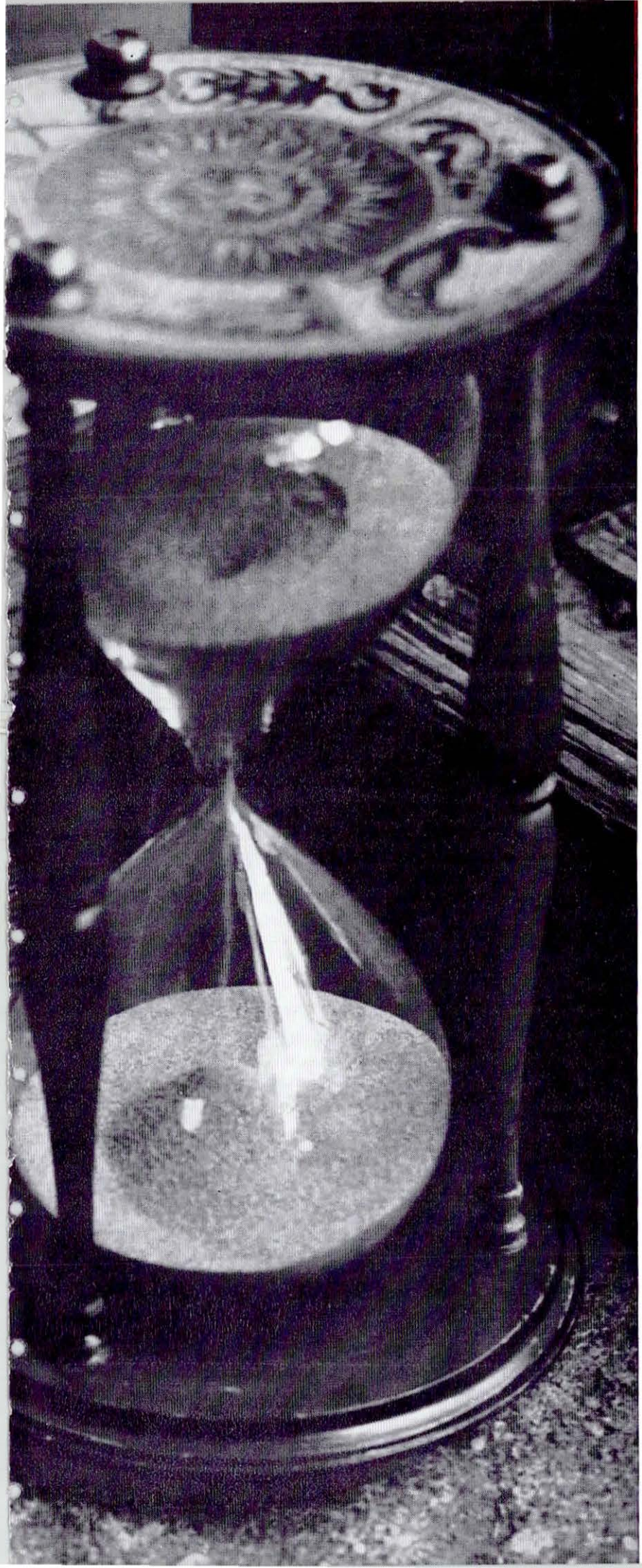
There would be benefits for railroad users, the railroads themselves, and the public generally, claims the Rail Foundation.

For railroad users, such an arrangement would mean "modernization of fixed facilities; uniform high standards of track maintenance; no arbitrary line abandonments; no arbitrary preference for freight trains over passenger trains on a given line of track; ready access to tracks and facilities on reasonable terms for national, state, regional and local passenger corporations and agencies, express and package freight carriers; freight forwarders, shipper owned 'unit trains,' etc.; reduction in freight car shortages through more efficient and intensive utilization of rolling stock, made possible by standardization and centralization of car monitoring and of related data processing activity; better service at lower rates by combination of best portions of present routes between given points, and by elimination of redundant and unneeded facilities; better service through increased competition by extending franchises to two or more carriers to operate over lines now served by only one; better service through transfer of franchises from carriers providing inadequate service on given routes to others who might do better."

For railroad corporations, the memorandum suggests, government takeover of rights-of-way would mean "equal treatment by government in relation to other modes of transportation (public financial assistance for capital improvements to fixed property, over and above receipts from user charges; full deductibility from Federal income tax, as an expense, of that portion of user charges which goes for capital improvements to fixed property; no need to rely on private financing for capital improvements to fixed property, and no interest expense incurred for such purposes; no payments to state and local governments for property taxes on fixed property); availability of total financial resources and undivided attention of management for train operations, marketing, equipment, and research and development; increased ability to obtain financing on reasonable terms through sharply increased rate of return because of reduction in rate base; increased revenues and/or lower costs. . . ."

The public, says the Rail Foundation, would benefit from "elimination of grade crossings and return of substantial land area to more productive uses by consolidation of duplicate tracks, yards and other facilities; stabilization of state and local property tax revenues through termination of railroad efforts to obtain lower assessments by litigation and by local, state and Federal legislation; restoration of economic health to railroad transportation under private enterprise and, consequently, the avoidance of nationalization."

The memorandum lists a number of areas for "study and evaluation" in any formal study of the proposal. Consultants and others to whom the memo was circulated have been invited to submit recommendations for such a study. ■



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